



January 31, 2022

Via Sharefile

Ms. Julia Galayda
Bureau of Case Management
New Jersey Department of Environmental Protection
401 East State Street
PO Box 28
Trenton, New Jersey 08625-0028

**Re: Semi-Annual Groundwater Monitoring Report (July – December 2021)
 Hess Corporation – Former Port Reading Complex (HC-PR)
 750 Cliff Road
 Port Reading, Middlesex County, New Jersey**

Dear Ms. Galayda:

Enclosed please find the December 2021 Semi-Annual Groundwater Monitoring Report for the above referenced facility's North Landfarm, South Landfarm, and No. 1 Landfarm. This report was prepared by Earth Systems, Inc. on behalf of Hess Corporation, and presents the results of the monitoring and sampling events conducted in July and October 2021. The next monitoring and sampling events will be conducted in January and April 2022, with the results presented in the July 2022 Semi-Annual report.

Should you have any questions or comments relating to this report, please call me at 732-739-6444. I can also be reached via e-mail at ablake@earthsys.net. If you have any questions relating to the project and schedule moving forward, you can also contact Mr. John Schenkewitz of Hess Corporation at 609-406-3969.

Sincerely,
Earth Systems, Inc.

A handwritten signature in blue ink that reads "Amy Blake". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Amy Blake
Senior Project Manager

cc: Mr. Sameh Abdellatif – USEPA Region II (electronic copy)
 Mr. Andy Park – USEPA Region II (electronic copy)
 Mr. John Schenkewitz – Hess Corporation (electronic copy)
 Mr. Rick Ofsanko – Earth Systems, Inc. (electronic copy)
 Mr. John Virgie – Earth Systems, Inc. (electronic copy)

SEMI-ANNUAL GROUNDWATER MONITORING REPORT
HESS CORPORATION - FORMER PORT READING COMPLEX
NORTH LANDFARM, SOUTH LANDFARM, AND NO.1 LANDFARM

July – December 2021

Hess Corporation – Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County New Jersey

January 2022

Prepared for:



Hess Corporation

*Trenton-Mercer Airport
601 Jack Stephan Way
West Trenton, New Jersey 08628*

Prepared by:



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1.0 Introduction and Summary Table

Earth Systems, Inc. (Earth Systems) has been retained by Hess Corporation (Hess) to provide environmental consulting services for the Hess Corporation – Former Port Reading Complex (HC-PR) facility located at 750 Cliff Road in Port Reading (Woodbridge Township), Middlesex County, New Jersey. A United States Geological Survey (USGS) 7.5-minute series quadrangle map (Arthur Kill, New Jersey) depicting the site location, facility and associated land features is included as **Figure 1**. A Site Plan has been included as **Figure 2**.

This report documents the groundwater monitoring activities completed in third and fourth quarters of 2021 for the North Landfarm, South Landfarm, and No. 1 Landfarm.

SUMMARY OF ACTIONS

Location	Case Number/ Description	Description and Dates of Action
AOC-1	North Landfarm	Quarterly Groundwater Monitoring Events – July & October 2021
AOC-2	South Landfarm	Quarterly Groundwater Monitoring Events – July & October 2021
AOC-3	No. 1 Landfarm	Quarterly Groundwater Monitoring Events – July & October 2021 Leachate and Soil Sampling Event – July, October & September 2021

2.0 North Landfarm

2.1 Historic Information

The United States Environmental Protection Agency (USEPA) issued a Hazardous and Solid Waste Amendments (HSWA) Permit (No. NJD045445483) for the Port Reading facility effective May 1, 1988. The HSWA Permit requires the nature, extent, and rate of migration be determined for hazardous waste or hazardous constituents in soils, groundwater, and sediment at any solid waste management unit (SWMU).

On November 14, 1995, Hess was informed, via NJDEP correspondence, that the Bureau of Federal Case Management (BFCM) would assume oversight of the North and South Landfarms in addition to other applicable areas of concern (AOCs).

The North Landfarm operated from 1975 to October 24, 1985, receiving Interim Status in 1980. As part of the USEPA permitting process and the Discharge to Groundwater permitting process under the New Jersey Pollutant Discharge Elimination System (NJPDES) for the facility, Hess elected to close the North Landfarm.

The North Landfarm is located in the northern portion of the facility. It is bordered to the west and to the north by the earthen retention dike of Tank 7945 and on the east and south by a dike system built to retain run-off from the Landfarm. The surface area of the North Landfarm is approximately 1/3 acre. The Landfarm is underlain by dredged fill and native marsh soils containing silt and clay.

The North Landfarm formerly treated two listed hazardous waste streams, API Separator Sludge (K051) and Leaded Tank Bottoms (K052). The total volume of waste applied to the North Landfarm from 1978 until October 24, 1985 is estimated at 21 tons. The quantity of hazardous waste applied to the Landfarm during this period is estimated at 15 tons. Non-hazardous biomass was applied to the Landfarm until approximately 1988.

2.2 Site Specific Geology and Hydrogeology

The North Landfarm is situated upon approximately 8.0 feet of dredged fill material. The source of the dredged fill is from the deepening of the Arthur Kill and consists of reddish-brown sands with clay and silt. Underlying this fill layer is a layer that consists of predominately clayey silt and organic matter. This layer gradually transitions to an organic fibrous material (peat) zone with silty clay. The peat layer starts at approximately 10.0 feet below ground surface (bgs).

The general flow of the unconfined groundwater beneath the North Landfarm is to the north-northeast. This gradient is affected by buried former channels of Smith Creek and tributaries. These are located south and east of the Landfarm. The waters from the upper unconfined aquifer merge with the North Drainage Ditch. The North Drainage Ditch trends northwest to southeast and connects to the Arthur Kill approximately 2,100 feet southeast of the Landfarm.

The normal daily tide elevations in the Arthur Kill range from a low tide of about -2.3 feet below the National Geodetic Vertical Datum (NGVD) of 1929 to a high tide of +4.3 feet above NGVD. At typical high tide, the ditch fills with water and at low tide the ditch is dry. There is no significant westward flow of water at high tide and no significant outward flow of water at low tide.

The North Landfarm is surrounded by diked containment walls, which prevent the discharge of Landfarm surface water. A groundwater monitoring well network has been established for the North Landfarm to monitor potential releases of constituents from the Landfarm. These wells are monitored, sampled, and analyzed on a quarterly basis in accordance with the NJPDES permit.

2.3 Hydraulic Monitoring Results

On July 10 and October 7, 2021, depth to water measurements were collected from the North Landfarm monitoring wells LN-1 through LN-7. Groundwater elevation contour data from the July and October 2021 monitoring events are summarized in **Table 1**.

Groundwater flow direction, as depicted on the groundwater contour maps (**Figures 3 and 4**), is generally toward the north and northeast, which is consistent with historic observations.

2.4 Groundwater Monitoring

On July 14 and October 14, 2021, groundwater samples were collected via low-flow sampling methodology in accordance with the NJDEP's *Field Sampling Procedures Manual (FSPM)*.

Prior to groundwater purging, the pump intake depth placement was determined by water level, screen depth, and contaminants of concern. The contaminants of concern for the landfarms are petroleum related compounds. Therefore, the appropriate sampling interval is the top of the groundwater column and the pump was placed in the top 2 feet of the saturated screen. The depth of the pump was recorded on the low-flow field worksheets. These field worksheets are included in **Appendix A**. Groundwater purging was conducted at each well utilizing a Monsoon submersible pump with Teflon-lined ¼ inch polyethylene tubing. Groundwater field parameters were collected using a Horiba U-52 water quality meter and flow cell. The Horiba U-52 is calibrated by both the rental company as well as by field personnel. The Horiba is calibrated in accordance with the manufacturer's instructions and in accordance with Earth Systems' Standard Operating Procedures. All calibration documentation is included in **Appendix A**. The field parameters which were monitored include temperature, conductivity, dissolved oxygen, turbidity, redox potential, and pH. Groundwater elevation measurements were collected utilizing a Solinst oil/water interface probe. Groundwater elevations are recorded prior to pump placement and continuously during well purging. The total depth of the well is measured at the conclusion of well sampling to prevent disturbing any sediment present at the base of the well prior to sampling. During well purging, the monitored parameters are measured every 5 minutes until three consecutive stable readings are recorded. In accordance with the FSPM Section 6.9.2.2.5.2, the following values are utilized to determine stability for the monitored parameters:

- pH +/- 0.1 unit
- Specific Conductance +/- 3%
- Temperature +/- 3%
- Dissolved Oxygen +/- 10%
- Turbidity +/- 10% for values greater than 1 NTU
- ORP +/- 10 millivolts
- Water level drawdown <0.3 feet

Earth Systems is certified by the NJDEP Office of Quality Assurance (OQA) to collect the parameters specified above (Laboratory Certification #13040).

The parameter readings and the water level drawdown were recorded on the low-flow field worksheets. Any variances were also recorded on the low-flow stabilization sheets.

Groundwater monitoring records, which include low flow field worksheets and calibration information, are included in **Appendix A**.

Prior to and at the completion of groundwater sampling of each monitoring well, the Horiba U-52 water quality meter, flow cell, and submersible pump are properly decontaminated using Alconox and a distilled or deionized water rinse. Tubing is discarded after sampling of each well and is not reused.

Following well water purging and stabilization, groundwater samples were collected and placed into laboratory provided containers. All groundwater samples were collected directly from the tubing. All samples were appropriately labeled, logged, and placed into a cooler with ice prior to submittal to the laboratory. Quality control samples, including trip blanks and field blanks, were collected and submitted for analysis to evaluate the potential for cross contamination.

Groundwater samples were collected from monitoring wells LN-1 through LN-7 on July 14, 2021 and October 14, 2021. SGS Laboratories (SGS) of Dayton, New Jersey (NJ NELAP Certification No. 12129) provided the analytical services.

2.5 Groundwater Analytical Results – July 2021

On July 14, 2021, groundwater samples were collected from monitoring wells LN-1 through LN-7 and analyzed for select Volatile Organic Compounds (VOCs), metals, pesticides, and various wet chemistry parameters as specified in the October 24, 1984 Draft Interim NJPDES Permit #0028878. The results of the July 2021 North Landfarm groundwater sampling event are summarized in **Table 2**.

Targeted VOCs and pesticides were not detected at concentrations exceeding the NJDEP Ground Water Quality Standards (GWQS) in the groundwater samples collected from monitoring wells LN-1 through LN-7.

Select metals were detected at concentrations exceeding the GWQS in groundwater samples collected from all monitoring wells. General chemistry parameters were also detected exceeding the GWQS in all groundwater samples, excluding the groundwater samples collected from wells LN-2, LN-5, and LN-6. The following table summarizes the metals and general chemistry laboratory results. Although the naturally occurring sodium, chlorides and dissolved solids deem the shallow groundwater as brackish and unsuited for potable use, all groundwater samples have been compared to the NJDEP groundwater quality standards.

Client Sample ID:		NJ Groundwater Criteria	LN-1	LN-2	LN-3	LN-4	LN-5	LN-6	LN-7
Lab Sample ID:			JD28201-1	JD28201-2	JD28201-3	JD28201-4	JD28201-5	JD28201-6	JD28201-7
Date Sampled:			7/14/2021	7/14/2021	7/14/2021	7/14/2021	7/14/2021	7/14/2021	7/14/2021
Matrix:			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Metals Analysis									
Aluminum	ug/l	200	383	<200	<200	<200	1500	<200	<200
Arsenic	ug/l	3	<3.0	<3.0	5.9	12.3	<3.0	<3.0	3.7
Iron	ug/l	300	41500	18800	55800	24700	2920	21000	25400
Lead	ug/l	5	5.3	<3.0	<3.0	<3.0	4.3	<3.0	<3.0
Manganese	ug/l	50	784	302	758	546	33.1	524	701
Sodium	ug/l	50000	169000	107000	277000	407000	45100	123000	93700
General Chemistry									
Chloride	mg/l	250	286	155	428	609	15.4	108	157
Nitrogen, Ammonia	mg/l	3	4.5	2.3	4.8	2.3	<0.2	1.4	3.1
Solids, Total Dissolved	mg/l	500	115	250	655	690	200	40	160

- Blue shading indicates exceedance of GWQS

2.6 Groundwater Analytical Results – October 2021

On October 14, 2021, groundwater samples were collected from monitoring wells LN-1 through LN-7 and analyzed for select VOCs, metals, pesticides, and various wet chemistry parameters as specified in the October 24, 1984 Draft Interim NJPDES Permit #0028878. The results of the October 2021 North Landfarm groundwater sampling event are summarized in **Table 3**.

Targeted VOCs and pesticides were not detected at concentrations exceeding the GWQS in the groundwater samples collected from monitoring wells LN-1 through LN-7.

Select metals were detected at concentrations exceeding the GWQS in groundwater samples collected from all monitoring wells. General chemistry parameters were also detected above the GWQS in all groundwater samples, excluding the groundwater samples collected from wells LN-2, LN-5, and LN-7. The following table summarizes the metals and general chemistry laboratory results.

Client Sample ID:		NJ Groundwater Criteria	LN-1	LN-2	LN-3	LN-4	LN-5	LN-6	LN-7
Lab Sample ID:			JD33583-3	JD33583-4	JD33583-5	JD33583-6	JD33583-7	JD33583-8	JD33583-9
Date Sampled:			10/14/2021	10/14/2021	10/14/2021	10/14/2021	10/14/2021	10/14/2021	10/14/2021
Matrix:			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Metals Analysis									
Aluminum	ug/l	200	1150	<200	<200	<200	1550	<200	<200
Arsenic	ug/l	3	3	3.5	8.5	13.2	<3.0	7.7	5.2
Iron	ug/l	300	47400	17000	40200	20200	3300	24100	27400
Lead	ug/l	5	5.9	<3.0	<3.0	<3.0	7.3	<3.0	<3.0
Manganese	ug/l	50	772	254	692	468	34.2	527	774
Sodium	ug/l	50000	183000	92500	206000	274000	27500	141000	111000
General Chemistry									
Chloride	mg/l	250	385	132	291	458	17.6	187	156
Nitrogen, Ammonia	mg/l	3	6.1	2.2	5.9	2.4	<0.20	4.7	2.5
Solids, Total Dissolved	mg/l	500	140	30	230	560	107	70	<10

- Blue shading indicates exceedance of GWQS

2.7 Conclusions

The two main contaminants of concern for the North Landfarm groundwater are arsenic and lead. A summary of arsenic and lead concentrations for the last 12 quarterly sampling events is included below. Groundwater analytical results for the North Landfarm are summarized on **Figure 5**.

Arsenic Concentrations

Arsenic concentrations have been generally consistent for the last 12 quarterly groundwater sampling events. The following table summarizes the arsenic concentrations from January 2019 through October 2021.

Well ID	GWQS (ug/l)	1/15/2019	4/15/2019	7/9/2019	10/24/2019	1/22/2020	4/14/2020	7/14/2020	10/6/2020	1/27/2021	4/14/2021	7/14/2021	10/14/2021
LN-1	3	<3.0	<3.0	4.3	13.7	<3.0	9.6	<3.0	5	3.6	<3.0	<3.0	3
LN-2	3	5.9	4.3	3.8	<3.0	3.2	4.5	4.8	4.9	<3.0	<3.0	<3.0	3.5
LN-3	3	4.8	<3.0	9.9	6.1	6.6	9	8.2	11.2	3.4	5.3	5.9	8.5
LN-4	3	10.5	9.9	14.5	17.8	11.2	12.1	16.5	16.6	11.5	9.3	12.3	13.2
LN-5	3	13.6	27	15.6	20	5.2	11.6	3.9	<3.0	<3.0	<3.0	<3.0	<3.0
LN-6	3	<3.0	6.8	7	7.6	4.7	6	9.8	11.4	4.9	3.6	<3.0	7.7
LN-7	3	3.9	<3.0	5.9	8	5.2	8.3	6	7.8	3.1	3.8	3.7	5.2

Lead Concentrations

Lead concentrations have fluctuated in the groundwater samples collected from monitoring well LN-5 from 3.6 to a high of 146 parts per billion (ppb) over the last 12 rounds of quarterly sampling. The following table summarizes the lead analytical results from January 2019 through October 2021.

Well ID	GWQS (ug/l)	1/15/2019	4/15/2019	7/9/2019	10/24/2019	1/22/2020	4/14/2020	7/14/2020	10/6/2020	1/27/2021	4/14/2021	7/14/2021	10/14/2021
LN-5	5	42.8	146	50.9	69.5	22.5	45.2	9.9	3.6	62.5	6.9	4.3	7.3

Laboratory reports for the North Landfarm July and October 2021 quarterly sampling events are included in **Appendix B**.

3.0 South Landfarm

3.1 Historic Information

The South Landfarm was constructed in 1975 above a former surface impoundment that previously received oily wastewaters. The South Landfarm was utilized for the treatment of oily soils and oily sludges from the onsite API Separator, corrugated plate separator, recoverable (slop) oil tank bottoms, and the tank bottoms of petroleum storage tanks.

The South Landfarm was operated during the refinery standby period from 1975 until 1984. In 1980, the South Landfarm received Resource Conservation and Recovery Act (RCRA) Interim Status for operation as a RCRA land treatment unit for process wastes (K051 and K052).

3.2 Site Specific Geology and Hydrogeology

A silty clay marsh layer is present below the South Landfarm from approximately 10 to 20 feet bgs. This marsh layer provides an effective aquitard (i.e., a confining barrier/layer) between the upper unconfined water table directly beneath the Landfarm, and the deeper confined water table underlying the marsh layer.

Hydrogeologic data indicates that well LS-3 is screened in poorly consolidated silty clay, which differs from the other south landfarm wells that have screened intervals that include sand units.

3.3 Hydraulic Monitoring Results

On July 10 and October 7, 2021, depth to water measurements were collected from the South Landfarm monitoring wells LS-1R, LS-2, LS-3 and LS-4. Groundwater elevation contour data from the July and October 2021 monitoring events is summarized in **Table 1**.

Groundwater flow direction, as depicted on the groundwater contour maps (**Figures 6 and 7**), is generally to the south, which is consistent with historic observations.

3.4 Groundwater Monitoring

On July 15 and October 15, 2021, groundwater samples were collected via low-flow sampling methodology in accordance with the NJDEP's *FSPM*. Groundwater sampling protocols are detailed in **Section 2.4**.

Groundwater monitoring records, which include low flow field worksheets and calibration information, are included in **Appendix A**.

Groundwater samples were collected from monitoring wells LS-1R, LS-2, LS-3, and LS-4 on July 15, 2021 and October 15, 2021. SGS of Dayton, New Jersey (NJ NELAP Certification No. 12129) provided the analytical services.

3.5 Groundwater Analytical Results – July 2021

South Landfarm

On July 15, 2021, groundwater samples were collected from wells LS-1R, LS-2, LS-3, and LS-4 and analyzed for select VOCs, metals, and general chemistry parameters in accordance with the Draft Interim NJPDES Permit #0028878. Analytical results from the July 2021 South Landfarm groundwater sampling event are summarized in **Table 4**.

Benzene was detected in the groundwater samples collected from monitoring wells LS-3 and LS-4 at concentrations exceeding the GWQS. TBA was detected in the groundwater sample collected from monitoring well LS-3 at a concentration exceeding the GWQS.

Arsenic, iron, manganese, and sodium were detected at concentrations exceeding the GWQS in groundwater samples collected from all monitoring wells. General chemistry parameters were also detected exceeding the GWQS in the groundwater samples collected from monitoring wells LS-3 and LS-4. Although the naturally occurring sodium, chlorides and dissolved solids deem the shallow groundwater as brackish and unsuited for potable use, all groundwater samples have been compared to the NJDEP groundwater quality standards. The following table summarizes the laboratory results.

Client Sample ID:		NJ Groundwater Criteria	LS-1R	LS-2	LS-3	LS-4
Lab Sample ID:			JD28307-3	JD28307-4	JD28307-5	JD28307-6
Date Sampled:			7/15/2021	7/15/2021	7/15/2021	7/15/2021
Matrix:			Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260D)						
Benzene	ug/l	1	ND (0.43)	ND (0.43)	7	7.9
Tert Butyl Alcohol	ug/l	100	ND (5.8)	ND (5.8)	1330	61.9
Metals Analysis						
Arsenic	ug/l	3	10.5	43.9	11.7	24
Iron	ug/l	300	7640	3630	119000	12300
Manganese	ug/l	50	581	301	1960	246
Sodium	ug/l	50000	58900	102000	1440000	368000
General Chemistry						
Chloride	mg/l	250	34.1	198	3080	555
Nitrogen, Ammonia	mg/l	3	0.94	1.4	10.5	33.6
Solids, Total Dissolved	ma/l	500	127	555	5810	1080

- Blue shading indicates exceedance of GWQS

3.6 Groundwater Analytical Results – October 2021

On October 15, 2021, groundwater samples were collected from wells LS-1R, LS-2, LS-3 and LS-4 and analyzed for select VOCs, metals, and general chemistry parameters in accordance with Draft Interim NJPDES Permit #0028878. Analytical results from the October 2021 South Landfarm groundwater sampling event are summarized in **Table 5**.

Benzene was detected in the groundwater samples collected from monitoring wells LS-3 and LS-4 at concentrations exceeding the GWQS. TBA was detected in the groundwater sample collected from monitoring well LS-3 at a concentration exceeding the GWQS. Arsenic, iron, manganese, and sodium were detected at concentrations exceeding the GWQS in groundwater samples collected from all monitoring wells. General chemistry parameters were also detected exceeding the GWQS in the groundwater samples collected from monitoring wells LS-3 and LS-4. Similar to previous groundwater sampling events, the sodium levels in these two wells are exceptionally high. The elevated sodium levels, as well as chlorides and other dissolved solids deems the shallow groundwater as unusable for potable use. The following table summarizes the laboratory results.

Client Sample ID:		NJ Groundwater Criteria	NJ Interim Groundwater Criteria	LS-1R	LS-2	LS-3	LS-4
Lab Sample ID:				JD33587-3	JD33587-4	JD33587-5	JD33587-6
Date Sampled:				10/15/2021	10/15/2021	10/15/2021	10/15/2021
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260D)							
Benzene	ug/l	1	-	ND (0.43)	ND (0.43)	1.1	5.1
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)	ND (5.8)	1420	94.2
Metals Analysis							
Arsenic	ug/l	3	-	8.1	26.4	4.3	22
Iron	ug/l	300	-	9180	1890	45200	9950
Manganese	ug/l	50	-	1290	180	1320	261
Sodium	ug/l	50000	-	70800	107000	1320000	423000
General Chemistry							
Chloride	mg/l	250	-	52.4	211	3270	764
Nitrogen, Ammonia	mg/l	3	-	0.92	1.5	10	34.8
Solids, Total Dissolved	mg/l	500	-	240	497	4740	1100

- Blue shading indicates any exceedance of GWQS

3.7 Conclusions

The main contaminants of concern for the South Landfarm groundwater are benzene, TBA, and arsenic. A summary of benzene, TBA, and arsenic concentrations for the last 12 quarterly groundwater sampling events is included below. Analytical results for the South Landfarm are summarized on **Figure 8**.

Benzene Concentrations

Monitoring Well LS-3

Benzene concentrations have ranged from a high of 61.6 ppb (January 2019) to a low of 1.1 ppb (October 2021) in the groundwater samples collected from monitoring well LS-3.

Monitoring Well LS-4

Benzene concentrations have fluctuated from a high of 20.4 ppb (July 2019) to a low of 0.73 ppb (January 2020) in the groundwater samples collected from monitoring well LS-4.

The following table summarizes the benzene concentrations for monitoring wells LS-3 and LS-4 from January 2019 through October 2021.

Well ID	GWQS	1/17/2019	4/17/2019	7/11/2019	10/22/2019	1/23/2020	4/14/2020	7/16/2020	10/8/2020	1/29/2021	4/15/2021	7/15/2021	10/15/2021
LS-3	1	61.6	58.2	15.3	10.5	51.4	51.5	10	3.9	56	41.2	7	1.1
LS-4	1	2.2	5.9	20.4	4.2	0.73	1.1	5.3	3.5	0.77	1.7	7.9	5.1

TBA Concentrations

TBA has only been detected in two of the South Landfarm monitoring wells: LS-3 and LS-4. TBA concentrations have been consistently detected at concentrations over the GWQS for the last 12 sampling events for monitoring well LS-3. However, TBA concentrations have fluctuated in well LS-4 over the last 12 groundwater sampling events and TBA was not detected at a concentration exceeding the GWQS for the last nine groundwater sampling events. The following table summarizes the TBA concentrations from January 2019 through October 2021 for monitoring well LS-3.

Well ID	GWQS	1/17/2019	4/17/2019	7/11/2019	10/22/2019	1/23/2020	4/14/2020	7/16/2020	10/8/2020	1/29/2021	4/15/2021	7/15/2021	10/15/2021
LS-3	100	239	210	530	801	337	387	977	1070	543	504	1330	1420

Arsenic Concentrations

Arsenic concentrations have been generally consistent for the last 12 quarterly groundwater sampling events for samples collected from all South Landfarm monitoring wells, excluding monitoring wells LS-2 and LS-4. Arsenic concentrations have fluctuated in the groundwater samples collected from monitoring wells LS-2 and LS-4. The following table summarizes the arsenic concentrations from January 2019 through October 2021.

Well ID	GWQS	1/17/2019	4/17/2019	7/11/2019	10/22/2019	1/23/2020	4/14/2020	7/16/2020	10/8/2020	1/29/2021	4/15/2021	7/15/2021	10/15/2021
LS-1R	3	8.3	10.8	19.6	23.4	12.9	6.5	19.4	11.9	9.5	7.5	10.5	8.1
LS-2	3	29.7	41.8	46.7	104	28.4	31.6	59.7	43.6	29	37.6	43.9	26.4
LS-3	3	6.1	8.2	9.7	11	11.3	8	12.6	12.7	7.1	7.4	11.7	4.3
LS-4	3	15.9	22.7	29.6	20.9	19.8	15.4	29.2	24.2	14.3	14.8	24	5.1

Laboratory reports for the South Landfarm July and October 2021 quarterly sampling events are included in **Appendix B**.

4.0 No. 1 Landfarm

4.1 Historic Information

The No. 1 Landfarm began operations in December 1985 under a revised Part A Interim Status Permit granted by the NJDEP on April 26, 1984 and the RCRA Industrial Waste Management Facility (IWMF) Operating Permit (Interim NJPDES Discharge to Groundwater Permit #0028878 issued in April 1985) for operation of the No. 1 Landfarm.

The No. 1 Landfarm is lined with an impermeable compacted clay liner. Above the clay liner is a leachate collection system, which collects water that has percolated through the treatment zone of the Landfarm. The leachate collection system was designed not to allow any leachate (soil-pore water) discharges into the groundwater.

The No. 1 Landfarm was utilized for waste disposal beginning in 1985. The Landfarm was permitted to treat four RCRA hazardous waste streams - API Separator Sludge (K-051), heat exchanger bundle cleaning sludge (K-050), leaded tank bottoms (K-052), and Tetraethyl Lead (TEL) tank bottoms (P-110). In the November 2020 Comment Letter, the NJDEP requested additional information regarding dimersol materials potentially being applied to the No. 1 Landfarm. There is no permit documentation which indicates that dimersol materials were ever applied to the No. 1 Landfarm.

4.2 Site Specific Geology and Hydrogeology

The No. 1 Landfarm area was constructed on top of dredged sediments from the Arthur Kill, as indicated in the May 10, 1984 RCRA Part B Permit Application.

The North Drainage Ditch is a tidal stream adjacent to the north end of the Landfarm and runs west to east. This ditch is a transitory municipal storm water drainage channel.

During monitoring well L1-2 installation, a gravel layer was encountered that may have been applied as fill within the bed of a buried tributary to the Smith Creek, which existed prior to construction of the refinery facility. Smith Creek and its tributaries were filled in before and/or as the facility was constructed.

A pumping test was conducted on well L1-2 on April 3, 1987. The results from this pumping test were provided in the 2001 Comprehensive Management Plan (CMP). Based on this data, it has been estimated that the velocity of the groundwater in the No. 1 Landfarm area to be approximately 5 feet per day (feet/day). This velocity is consistent with typical gravelly sand horizons under the relatively steep hydraulic gradient observed in this area. This is more than an order of magnitude faster than other observed locations at the facility.

4.3 Hydraulic Monitoring Results

On July 10 and October 7, 2021; depth to water measurements were collected from the No. 1 Landfarm monitoring wells L1-1 through L1-4, BG-2, and BG-3. Groundwater elevation contour data from the July and October 2021 monitoring events are summarized in **Table 1**.

Groundwater flow direction is generally to the north, northeast toward the North Drainage Ditch, which is consistent with historic observations.

Groundwater contour maps are included as **Figure 9** and **Figure 10**.

4.4 Groundwater Monitoring

On July 13 and October 13, 2021, groundwater samples were collected via low-flow sampling methodology in accordance with the NJDEP's *FSPM*. Groundwater sampling protocols are detailed in **Section 2.4**.

Groundwater monitoring records, which include low flow field worksheets and calibration information, are included in **Appendix A**.

Groundwater samples were collected from monitoring wells L1-1 through L1-4, BG-2, and BG-3 on July 13, 2021 and October 13, 2021. The July and October 2021 leachate samples were collected directly from the sampling port, located prior to treatment, in the leachate collection system. SGS of Dayton, New Jersey (NJ NELAP Certification No. 12129) provided the analytical services.

Soil samples were collected on September 16, 2021 from three zones in the No.1 Landfarm and analyzed for VOCs, SVOCs, metals, and general chemistry parameters.

4.5 Groundwater Analytical Results – July 2021

On July 13, 2021, groundwater samples were collected from monitoring wells L1-1 through L1-4, BG-2, and BG-3, and analyzed for select VOCs, Semi-Volatile Organic Compounds (SVOCs), metals, and general chemistry parameters in accordance with the Draft Interim NJPDES Permit #NJ0028878. Analytical results from the July 2021 No. 1 Landfarm groundwater sampling event are summarized in **Table 6**.

Targeted VOCs and SVOCs were not detected at concentrations exceeding the GWQS in the groundwater samples collected from any No. 1 Landfarm monitoring wells. Select metals were detected at concentrations exceeding the GWQS in groundwater samples collected from all monitoring wells, except for monitoring well L1-4. The following table summarizes the laboratory results.

Client Sample ID:		NJ Groundwater	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:		Criteria (NJAC	JD28114-1	JD28114-3	JD28114-6	JD28114-7	JD28114-2	JD28114-8
Date Sampled:		7:9C 9/4/18) ¹	7/13/2021	7/13/2021	7/13/2021	7/13/2021	7/13/2021	7/13/2021
Matrix:			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Metals Analysis								
Aluminum	ug/l	200	14100	<200	285	<200	297	<200
Arsenic	ug/l	3	13.2	23.7	16.9	<3.0	6.1	8
Iron	ug/l	300	30800	22400	4530	149	3530	14400
Lead	ug/l	5	28.6	<3.0	<3.0	<3.0	<3.0	<3.0
Manganese	ug/l	50	135	296	139	<15	38.5	335
Sodium	ug/l	50000	28400	113000	51200	<10000	20800	20500

- Blue shading indicates any exceedance of GWQS

4.6 Groundwater Analytical Results – October 2021

On October 13, 2021, groundwater samples were collected from monitoring wells L1-1 through L1-4, BG-2, and BG-3, and analyzed for select VOCs, SVOCs, metals, and general chemistry parameters in accordance with the Draft Interim NJPDES Permit #NJ0028878. Analytical results from the October 2021 No. 1 Landfarm groundwater sampling event are summarized in **Table 7**.

Targeted VOCs and SVOC were not detected in the groundwater samples at concentrations exceeding the GWQS in any No. 1 Landfarm monitoring wells. Select metals were detected at concentrations above the GWQS in groundwater samples collected from all monitoring wells, except for monitoring well L1-4. The following table summarizes the laboratory results.

Client Sample ID:		NJ	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:		Groundwater	JD33461-2	JD33461-3	JD33461-4	JD33461-5	JD33461-6	JD33461-7
Date Sampled:		Criteria	10/13/2021	10/13/2021	10/13/2021	10/13/2021	10/13/2021	10/13/2021
Matrix:			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Metals Analysis								
Aluminum	ug/l	200	851	<200	<200	<200	<200	<200
Arsenic	ug/l	3	<1.0	21.4	21.1	1.2	2.6	12.9
Iron	ug/l	300	790	30900	31500	<100	8820	20200
Manganese	ug/l	50	15	448	582	18.8	85.6	359
Sodium	ug/l	50000	115000	192000	102000	<10000	74700	37300

- Blue shading indicates any exceedance of GWQS

4.7 Additional Monitoring – Leachate and Soil Sampling

Leachate Sampling

A leachate sample is collected tri-annually and samples were collected on July 6, 2021 and October 4, 2021. The Leachate sample is a pre-treatment sample and is analyzed for VOCs, SVOCs, Metals, and general chemistry. Analytical results from the July and October 2021 No. 1 Landfarm Leachate samples are summarized in **Table 8**.

Targeted VOCs and SVOCs were not detected at concentrations exceeding the GWQS in the leachate sample. Arsenic was detected at 6.3 ppb (July 2021) and 11.3 ppb (October 2021) which exceeds the GWQS of 3.0 ppb.

Client Sample ID:		NJ Groundwater Criteria	LEACHATE	LEACHATE
Lab Sample ID:			JD27742-1	JD32779-1
Date Sampled:			7/6/2021	10/4/2021
Matrix:			Water	Water
Metals Analysis				
Arsenic	ug/l	3	6.3	11.3

Soil Sampling

Soil samples were collected from three zones in the No. 1 Landfarm and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. The three zones are defined as follows: the Zone of Incorporation (ZOI) is the interval located 0.5 to 1 foot below grade, the Treatment Zone (TZ) is the interval located 1.5-3.0 feet below grade, and the Unsaturated Zone (UZ) is the interval located 3.0 to 4.0 feet below grade.

Targeted VOCs were not detected over the applicable soil standards for all zones that were sampled. Benzo(a)pyrene and arsenic were detected over applicable soil standards for the Treatment Zone and Unsaturated Zone samples. The following table summarizes the analytical results. Soil sample results are summarized in **Table 9**.

Client Sample ID:		NJ Soil Remediation Standards	NJ Soil Remediation Standards	NJ Soil Remediation Standards	NJ Soil Remediation Standards	ZOI(0.0-1.5')	TZ(1.5-3.0')	UZ(3.0-4.0')
Lab Sample ID:		Ingestion Dermal	Ingestion Dermal	Inhalationl Exp.	Inhalationl Exp.	JD31718-1	JD31718-2	JD31718-3
Date Sampled:		Exp. Pathway	Exp. Pathway	Pathway	Pathway Non-	9/16/2021	9/16/2021	9/16/2021
Matrix:		Residential	Non-Residential	Residential	Residential	Soil	Soil	Soil
MS Semi-volatiles (SW846 8270E)								
Benzo(a)pyrene	mg/kg	0.51	2.3	7800	16000	0.411	1.01	0.792
Metals Analysis								
Arsenic	mg/kg	19	19	1100	5200	46.5	33.6 °	23.0 °

° Elevated detection limit due to dilution required for high interfering element.

4.8 Conclusions

Arsenic has been consistently detected in the groundwater samples collected from the No. 1 Landfarm monitoring wells. A summary of the arsenic concentrations for the last 12 quarterly groundwater sampling events is included below. Analytical data for the No. 1 landfarm is summarized on **Figure 11**.

Arsenic concentrations have been generally consistent for the last 12 quarterly groundwater sampling events for wells L1-2, L1-3, BG-2, and BG-3. The following table summarizes the arsenic concentrations from January 2019 through October 2021.

Well ID	GWQS	1/16/2019	4/16/2019	7/11/2019	10/23/2019	1/23/2020	4/14/2020	7/15/2020	10/7/2020	1/28/2021	4/13/2021	7/13/2021	10/13/2021
L1-2	3	19	16.6	22.6	25.4	15.9	19	27.3	29.3	18.2	15.9	23.7	21.4
L1-3	3	6.6	7.5	13.5	21.8	8.7	5.2	12.5	28.2	10	5.9	16.9	21.1
BG-2	3	7.5	9.1	15.7	6.1	7	14.3	15	19.2	11.7	7.6	6.1	2.6
BG-3	3	7	2.7	6.4	14	5.6	3.8	30.1	12.6	5.6	<3.0	8	12.9

Laboratory reports for the South Landfarm July and October 2021 quarterly sampling events are included in **Appendix B**.

5.0 Summary and Implementation Schedule

Remedial Action Workplans (RAWs) were submitted for the three landfarms in August/September 2016. The status for each Landfarm is as follows:

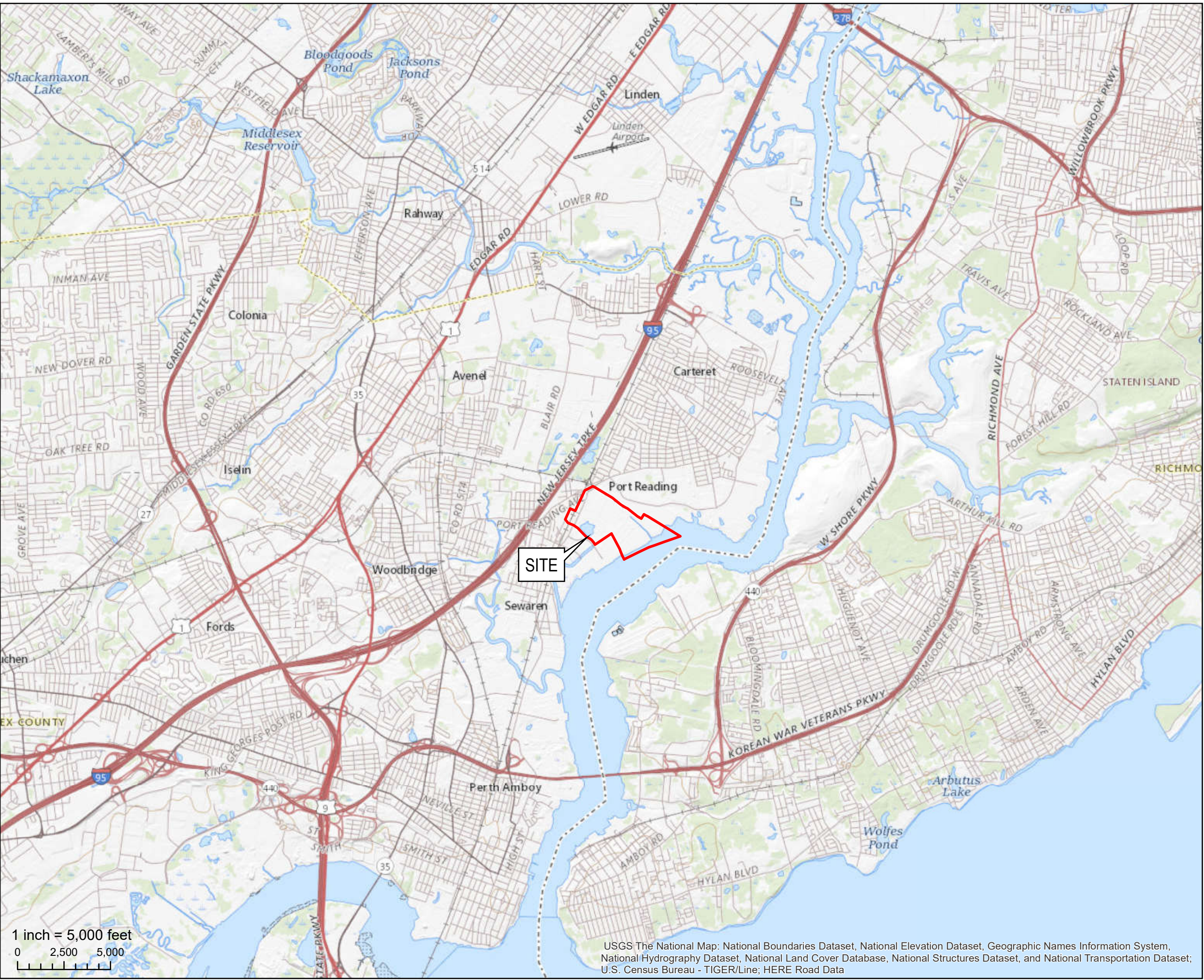
- North Landfarm
 - The NJDEP/USEPA provided comments regarding the RAW in June 2018.
 - The comments were incorporated into the 90% Soil Remedial Action Design (RAD) and submitted on October 24, 2019.
 - The NJDEP and USEPA issued an approval letter for the 90% design on April 28, 2020.
 - The current property owner (Buckeye) completed lining the tankfield located directly adjacent to the North Landfarm in 2021. A survey of current Site conditions is currently in process. Once the Site survey is completed, the 100% RAD will be finalized and submitted to the NJDEP and EPA. The targeted submittal for the 100% RAD is the 2nd Quarter 2022.
 - As requested by the NJDEP, a Pre & Post Closure Groundwater Sampling Plan is being prepared for the North Landfarm and will be submitted once the No. 1 Landfarm Pre & Post Closure Groundwater Sampling Plan is reviewed and approved by the NJDEP/EPA (see the No. 1 Landfarm summary below).
- South Landfarm
 - The NJDEP/USEPA provided comments regarding the RAW in March 2019.
 - Preparation of the RTC and the 90% RAD is currently underway and will incorporate the NJDEP/USEPA comments.

- As requested by the NJDEP, a Pre & Post Closure Groundwater Sampling Plan is being prepared for the South Landfarm and will be submitted once the No. 1 Landfarm Pre & Post Closure Groundwater Sampling Plan is reviewed and approved by the NJDEP/EPA (see the No. 1 Landfarm summary below).
- Landfarm No. 1
 - The 100% Soil RAD for the landfarm engineering control was submitted in May 2019.
 - Based on October 2019 NJDEP/USEPA comments, a revised 100% Soil RAD for was submitted on December 17, 2019.
 - The NJDEP/USEPA issued an approval letter for the 100% design on April 28, 2020.
 - The following permits were submitted in June and October 2020 and have been approved by the NJDEP on the dates provided:
 - Soil Erosion & Sediment Control Plan (Freehold Soil Conservation District), approved on August 17, 2020
 - Flood Hazard Area Individual Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
 - Waterfront Development GP-11 Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
 - Freshwater Wetland GP-4 Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
 - NJPDES B4B Permit (NJDEP Wastewater Program), approved on September 15, 2020
 - Treatment Works Approval TWA-1 Permit (NJDEP Wastewater Program), approved on February 18, 2021
 - NJPDES Individual Permit (NJDEP Stormwater Program), deemed administratively complete on 10/1.
 - As requested by the NJDEP, the Pre & Post Closure Groundwater Sampling Plan was submitted to the EPA and NJDEP in August 2021 and is currently being reviewed. Once the review is complete, the proposed groundwater sampling plan will be implemented.
 - Remedial capping activities began in October 2021 and are still ongoing. Periodic updates will be provided to the NJDEP and EPA.

Semi-annual Groundwater Monitoring reports that present and discuss the current sampling activities will continue to be submitted pending final closure of the landfarms. The next groundwater sampling events are scheduled to be completed in January and April 2022.

FIGURES

Document Path: P:\ArcGIS\HESS Projects\1114J00 - Port Reading Hess\1114J01 - Stewide\GIS\Port Reading - USGS Site Location Figure.mxd



LEGEND

Port Reading Site Boundary

**NEW JERSEY QUADRANGLE LOCATION:
53 - JERSEY CITY, NEW JERSEY**

FIGURE 1: USGS SITE LOCATION MAP

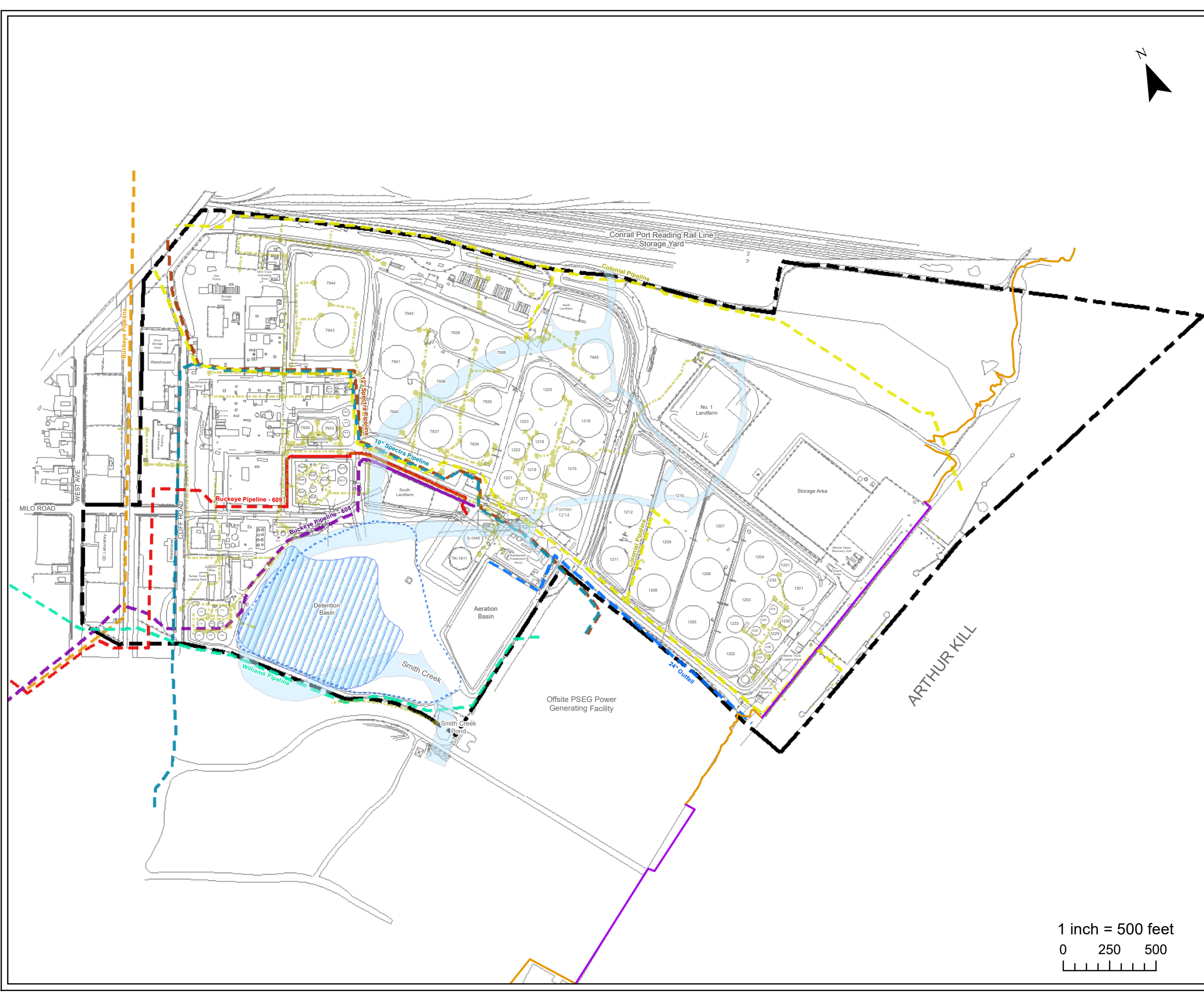
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USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data



LEGEND

- Site Boundary
- AOC 12 Extent
- Basin Present Extents
- Former Smith Creek Channel
- Shoreline
- Bulkhead
- Pipelines**
 - 10" Spectra Natural Gas Pipeline
 - 12" Spectra Pipeline
 - 24" Outfall
 - Buckeye Pipeline
 - Buckeye Petroleum Pipeline - 608
 - Buckeye Petroleum Pipeline - 609
 - Colonial Pipeline
 - Williams Pipeline
 - Sitewide Utilities/Wastewater

Utility and Pipe Line Note:
- Solid Line: Above-ground
- Dotted Line: Underground

FIGURE: 2
Site Plan

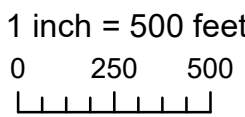
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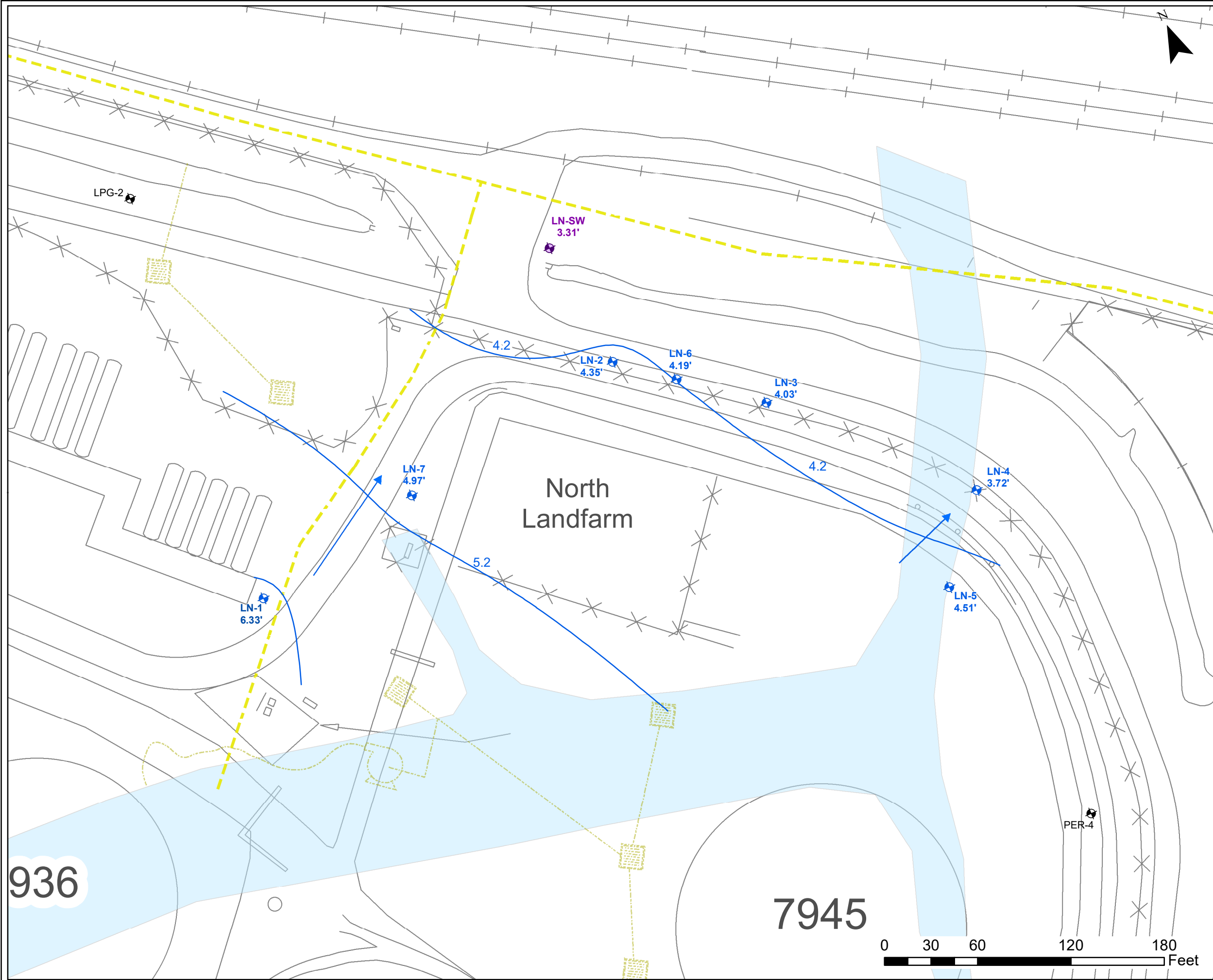
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LEGEND

- Surface Water Gauges
- North Landfarm Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- Colonial Pipeline
- Sitewide Utilities

NOTE:
1. All wells gauged on July 12, 2021

FIGURE: 3
JULY 2021
NORTH LANDFARM
GROUNDWATER ELEVATION CONTOUR

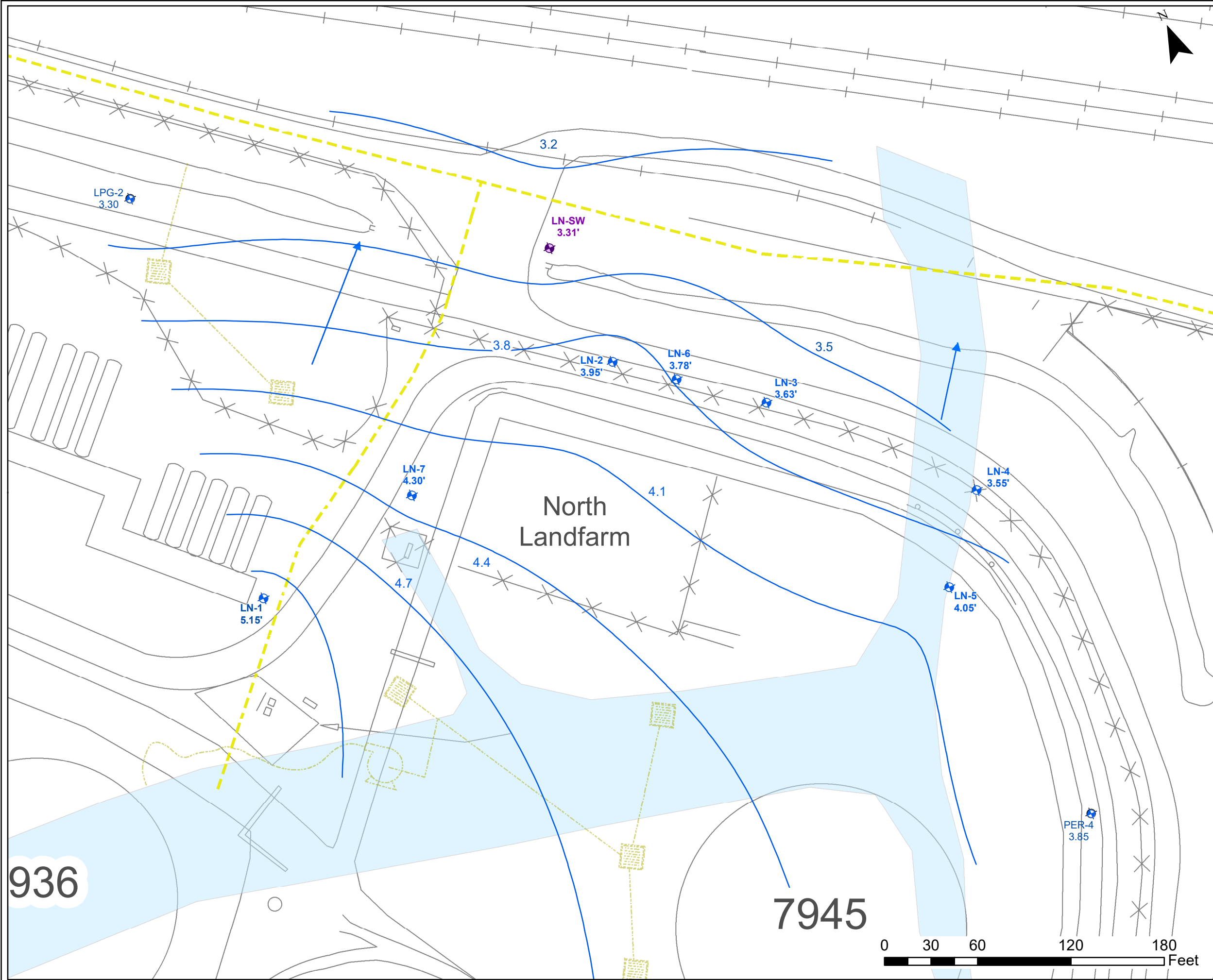
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LEGEND

- Surface Water Gauges
- North Landfarm Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- Colonial Pipeline
- Sitewide Utilities

NOTE:
1. All wells gauged on July 12, 2021

FIGURE: 4
OCTOBER 2021
NORTH LANDFARM
GROUNDWATER ELEVATION CONTOUR

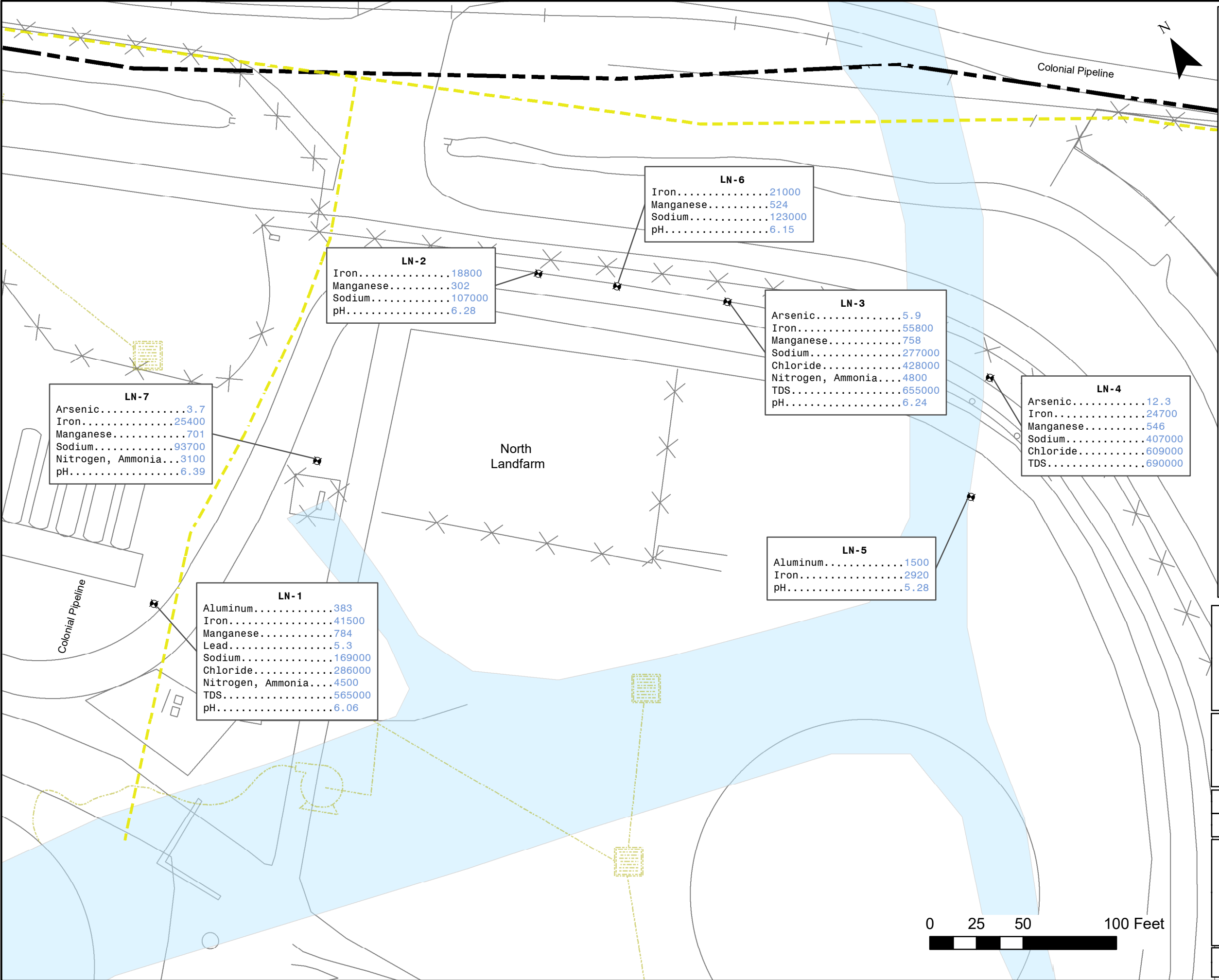
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LEGEND

- Monitoring Well
- Former Smith Creek Channel
- Site Boundary
- Pipelines
 - Colonial Pipeline
 - Sitewide Utilities

NJ Groundwater Criteria	
Arsenic	3
Iron	300
Manganese	50
Sodium	50000
Chloride	250
Nitrogen, Ammonia	3
Solids, Total Dissolved	500
pH	6.5-8.5

NOTE:
1 Results Measured in ug/l
2. Pipelines:
Solid: Aboveground
Dashed: Underground
3. TDS = Total Dissolved Solids

FIGURE: 5
July 2021
North Landfarm
Groundwater Results

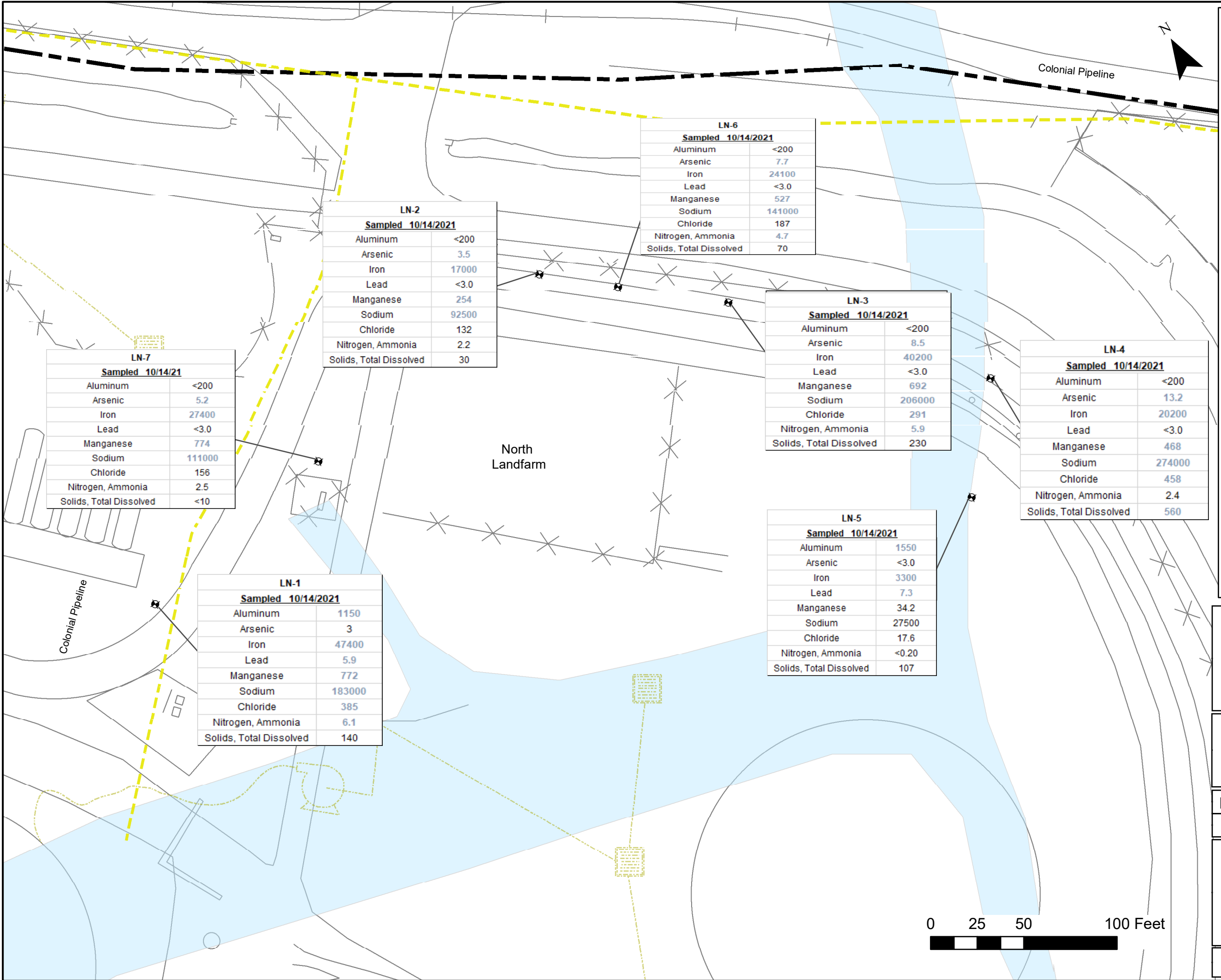
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LEGEND

- Monitoring Well
- Former Smith Creek Channel
- Site Boundary
- Pipelines
 - Colonial Pipeline
 - Sitewide Utilities

NJ GroundWater Criteria	
Aluminum	200
Arsenic	3
Iron	300
Lead	5
Manganese	50
Sodium	50000
Chloride	250
Nitrogen, Ammonia	3
Solids, Total Dissolved	500

NOTE:
1.Results Measured in ug/l
2. Pipelines:
Solid: Aboveground
Dashed: Underground
3. TDS = Total Dissolved Solids

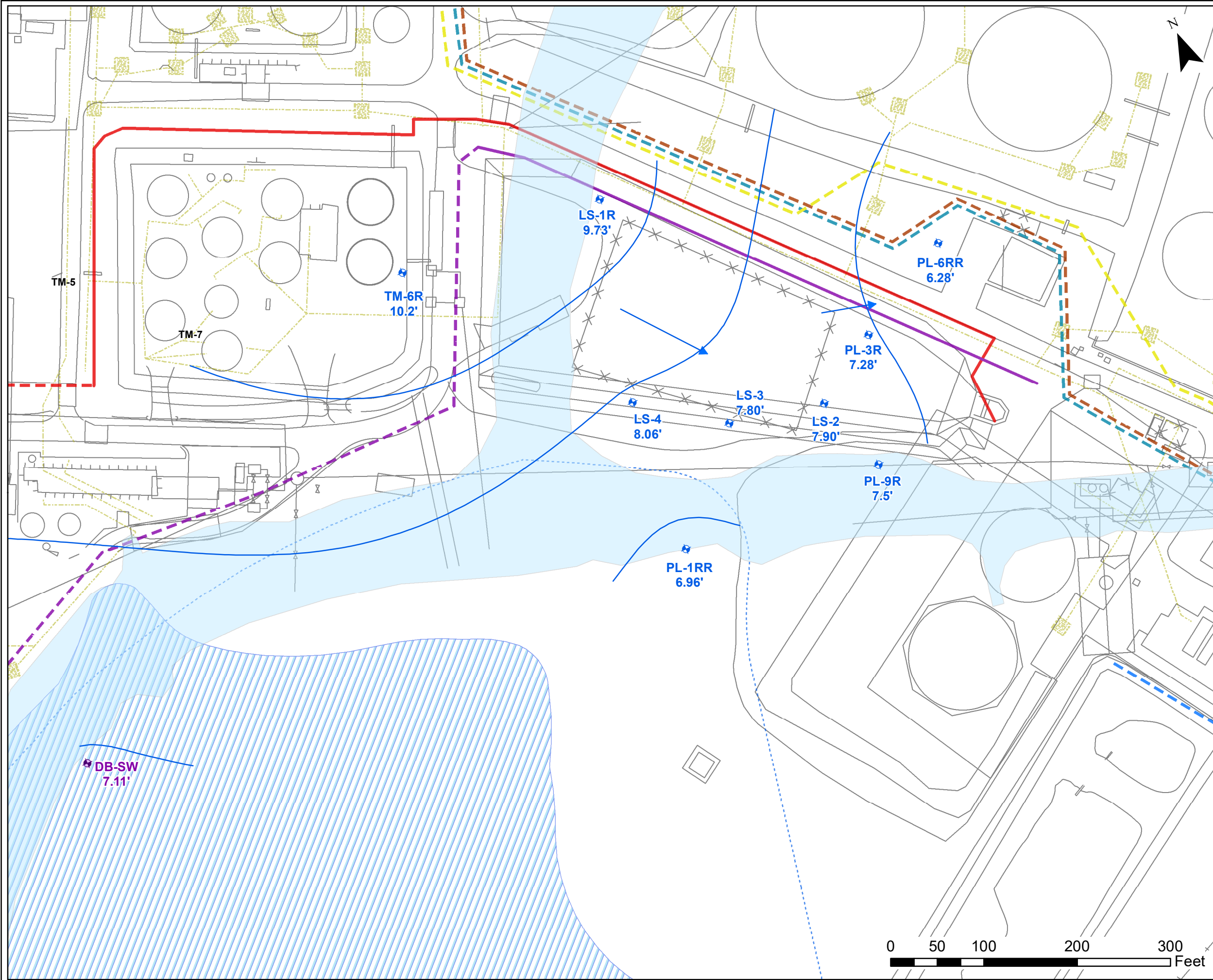
FIGURE: 6
October 2021
North Landfarm
Groundwater Results

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SRP PI#:	006148	Drawn By:	JP

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- LEGEND**
- Surface Water Gauge
 - Gauged Monitoring Well
 - Monitoring Well
 - Groundwater Elevation Contour
 - Groundwater Flow Direction
 - Former Smith Creek Channel
 - AOC 12 Extent
 - Basin Present Extents
 - 10" Spectra Natural Gas Pipeline
 - 12" Spectra Pipeline
 - 24" Outfall
 - Buckeye Pipeline
 - Buckeye Petroleum Pipeline - 608
 - Buckeye Petroleum Pipeline - 609
 - Colonial Pipeline
 - Unknown Pipeline/ Utility
 - Williams Pipeline
 - Sitewide Utilities

NOTE:
1. All wells gauged on July 12, 2021

FIGURE: 7
July 2021
SOUTH LANDFARM
GROUNDWATER ELEVATION CONTOUR

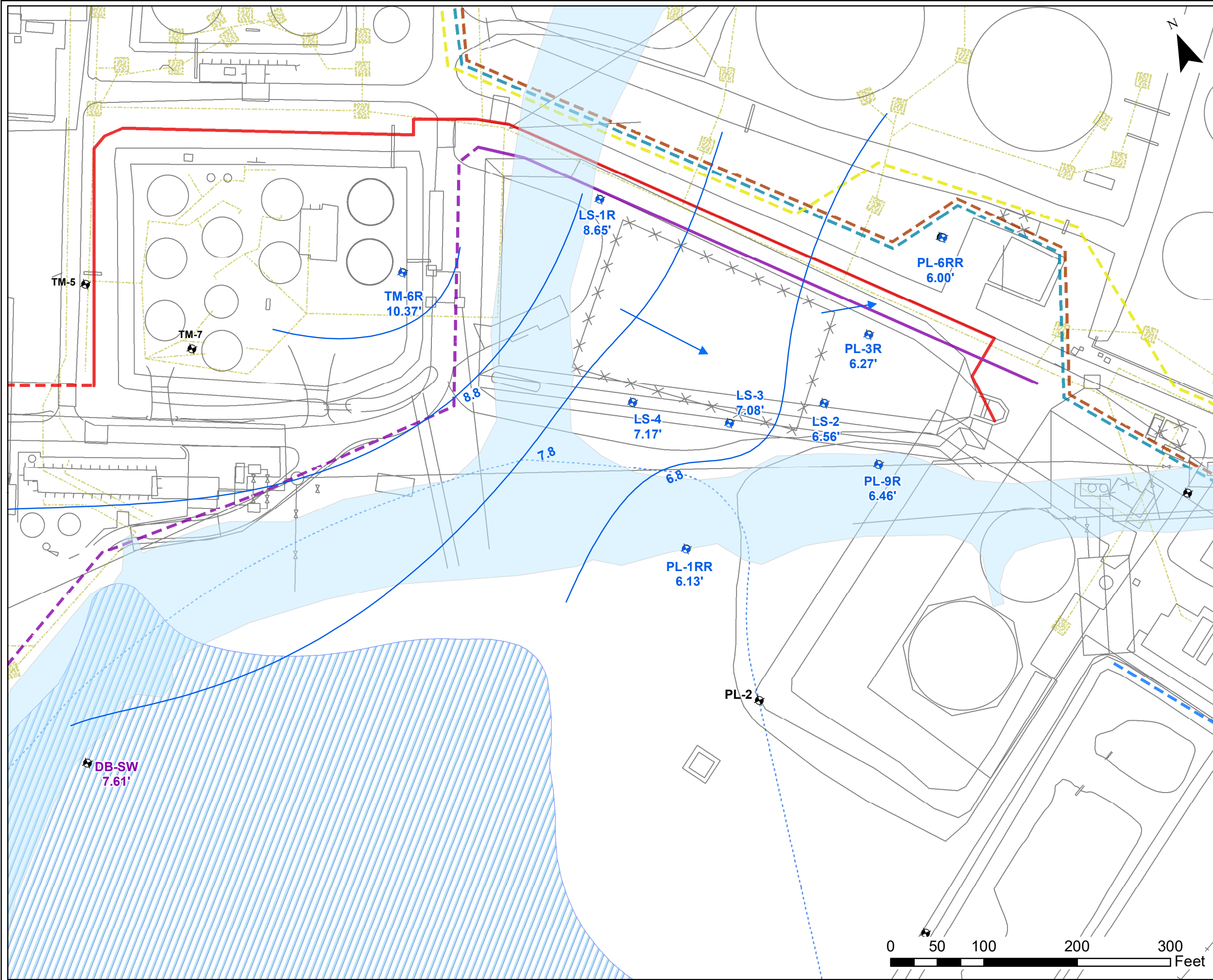
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LEGEND


- Surface Water Gauge
- Gauged Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
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- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline
- Sitewide Utilities

NOTE:
1. All wells gauged on October 10, 2021

FIGURE: 8
OCTOBER 2021
SOUTH LANDFARM
GROUNDWATER ELEVATION CONTOUR

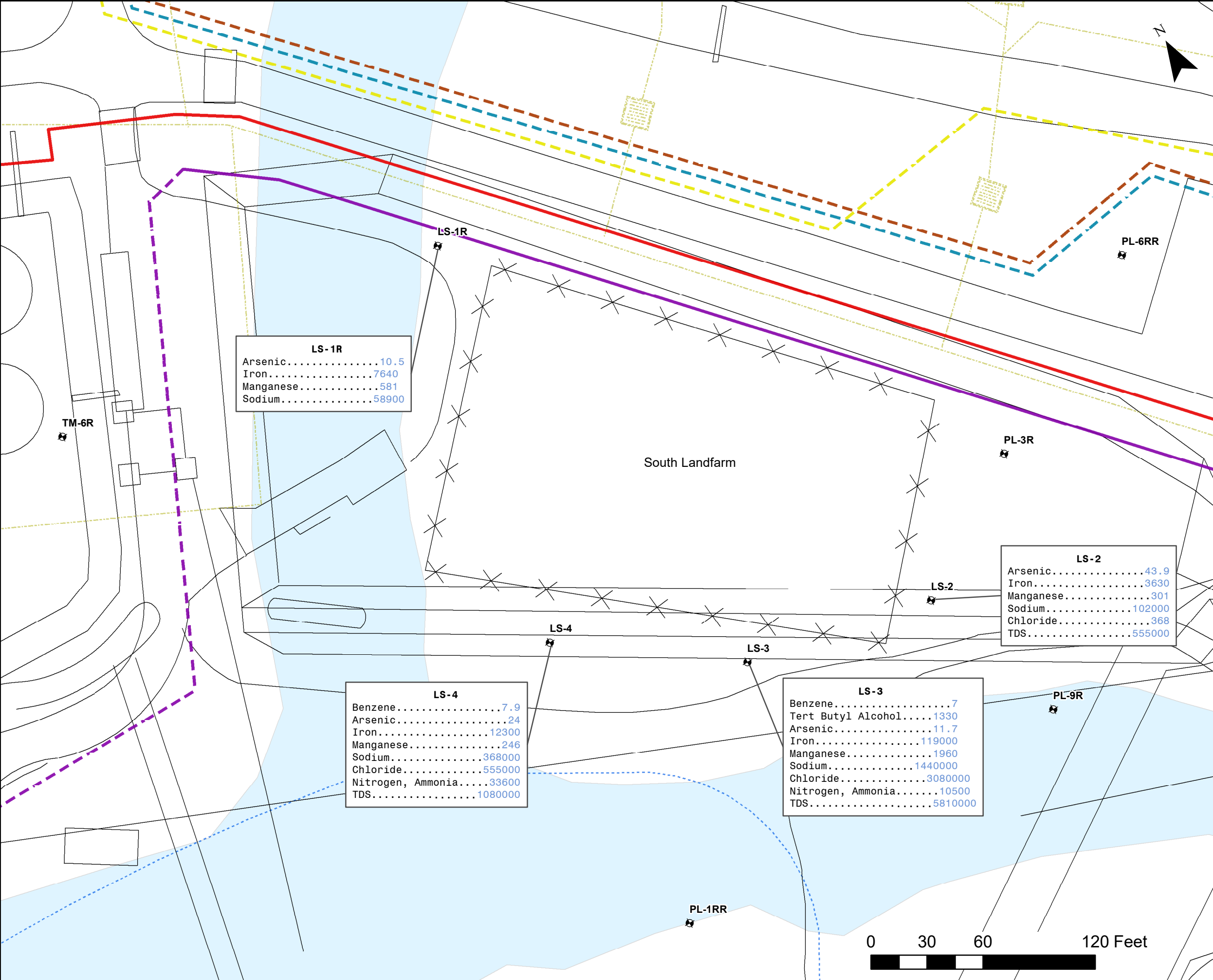
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Project #:	1114J01	Drawn:	12/16/2021
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LEGEND

- Monitoring Well
- Site Boundary
- Former Smith Creek Channel
- AOC 12 Extent

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Sitewide Utilities

NJ Groundwater Criteria	
Benzene	1
Tert Butyl Alcohol	100
Arsenic	3
Iron	300
Manganese	50
Sodium	50000
Chloride	250000
Nitrogen, Ammonia	3000
Solids, Total	500000

- NOTE:
- 1. Monitoring Wells were Sampled on 07/15/2021
 - 2. Results Measured in ug/l
 - 3. TDS - Total Dissolved Solids
 - 4. Pipelines:
Solid: Aboveground
Dotted Line: Underground

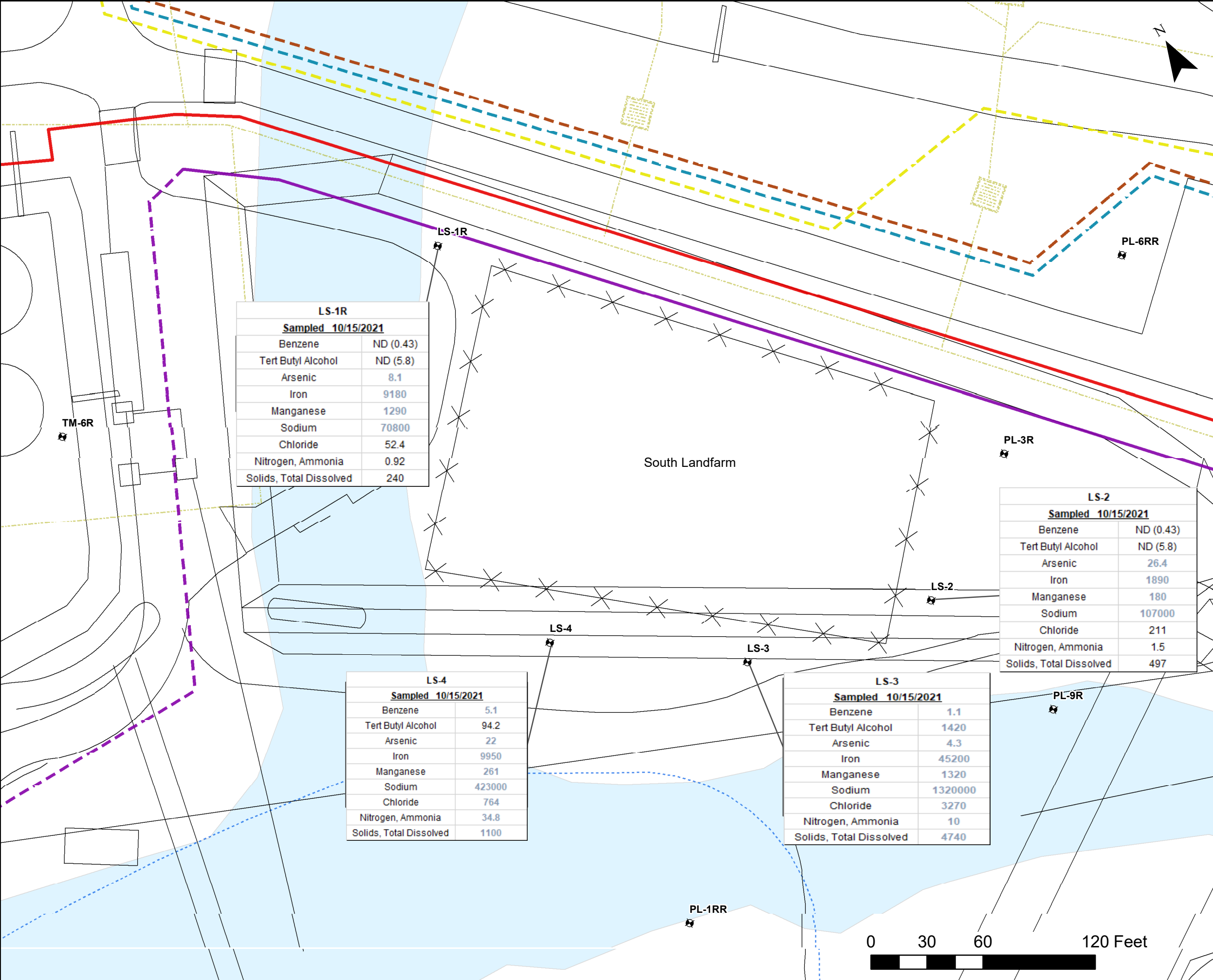
FIGURE: 9
July 2021
South Landfarm
Groundwater Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	08/06/2021
SRP PI#:	006148	Drawn By:	AE

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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LEGEND

- Monitoring Well
- Site Boundary
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Pipelines

- 10" Spectra Natural Gas Pipeline
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- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Sitewide Utilities

NJ GroundWater Criteria	
Benzene	1
Tert Butyl Alcohol	100
Arsenic	3
Iron	300
Manganese	50
Sodium	50000
Chloride	250
Nitrogen, Ammonia	3
Solids, Total Dissolved	500

NOTE:
Results Measured in ug/l

Pipelines:
Solid: Aboveground
Dotted Line: Underground

FIGURE: 10
October 2021
South Landfarm
Groundwater Results

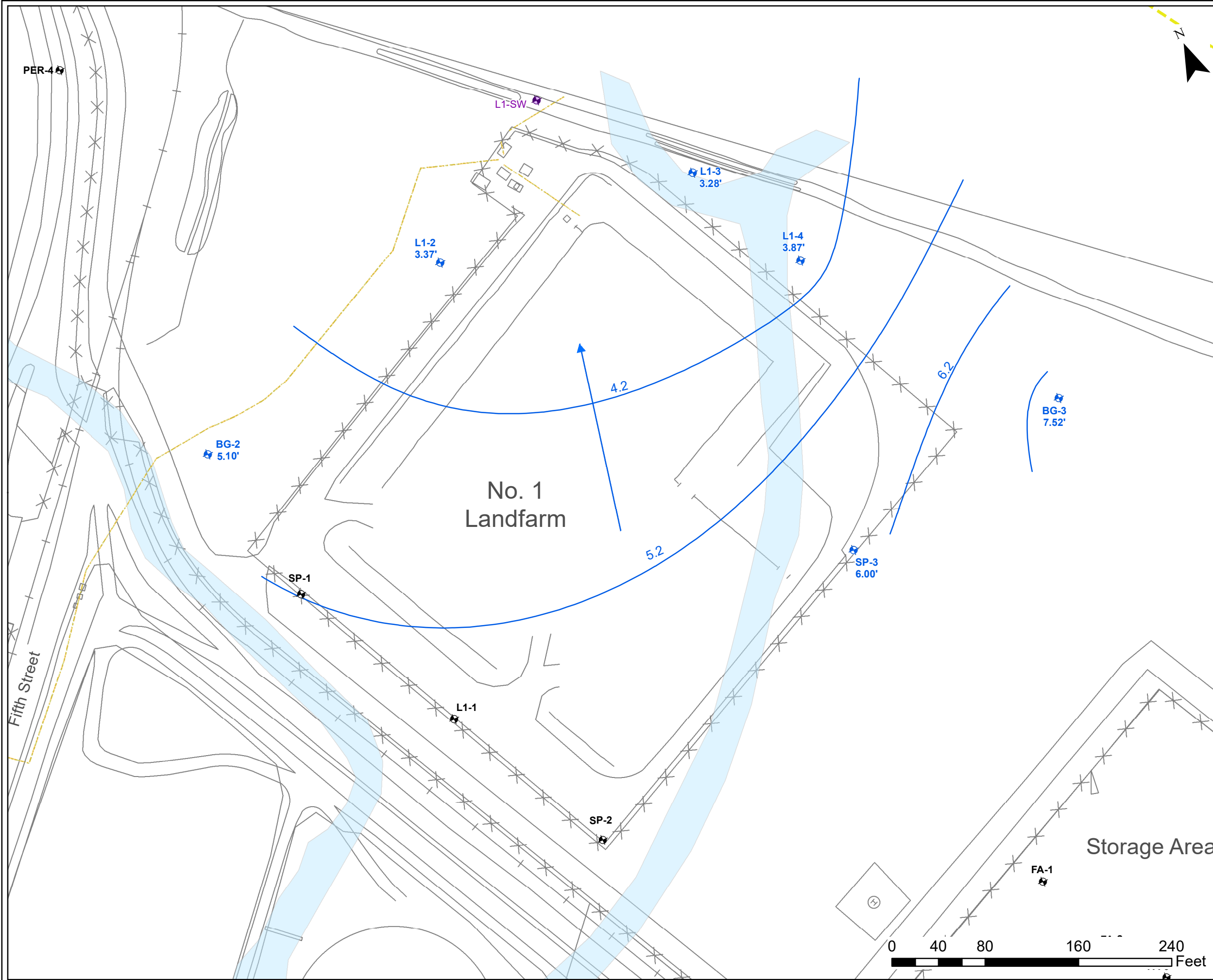
HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	01/21/2022
SRP PI#:	006148	Drawn By:	JP



Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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LEGEND

- Surface Water Gauge
- Gauged Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- Underground Utility Lines

NOTE:

1. All wells gauged on July 12, 2021
2. L1-1, SP-1 and SP-2 could not be gauged because of site activities.

FIGURE: 11
July 2021
NUMBER 1 LANDFARM
GROUNDWATER ELEVATION CONTOUR

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

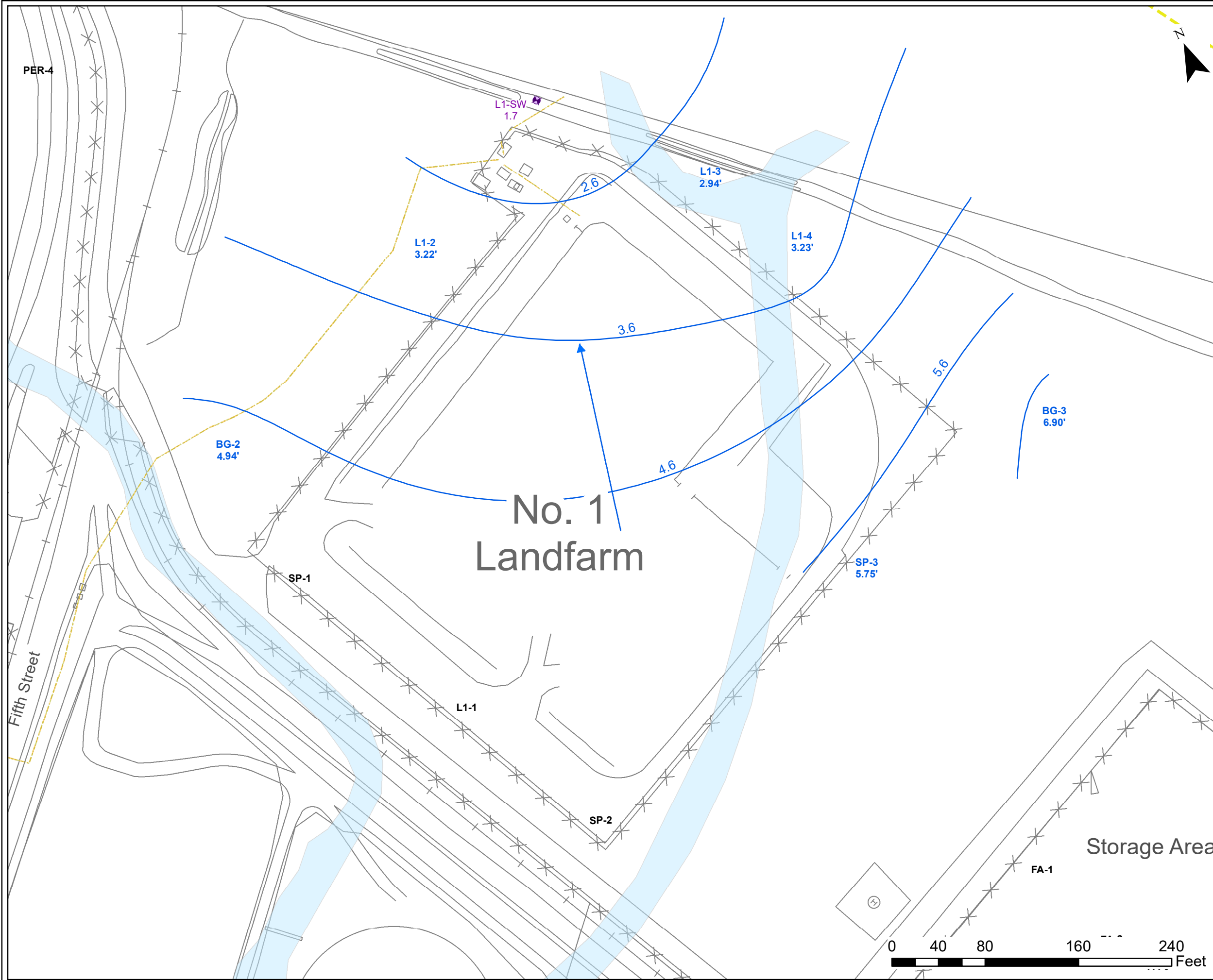
Project #:	1114J01	Drawn:	07/12/2021
SRP PI#:	006148	Drawn By:	AE



Environmental Engineering

1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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LEGEND

- Surface Water Gauge
- Gauged Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- Underground Utility Lines

NOTE:

1. All wells gauged on October 7, 2021
2. L1-1, SP-1 and SP-2 could not be gauged because of site activities.

FIGURE: 12
OCTOBER 2021
NUMBER 1 LANDFARM
GROUNDWATER ELEVATION CONTOUR

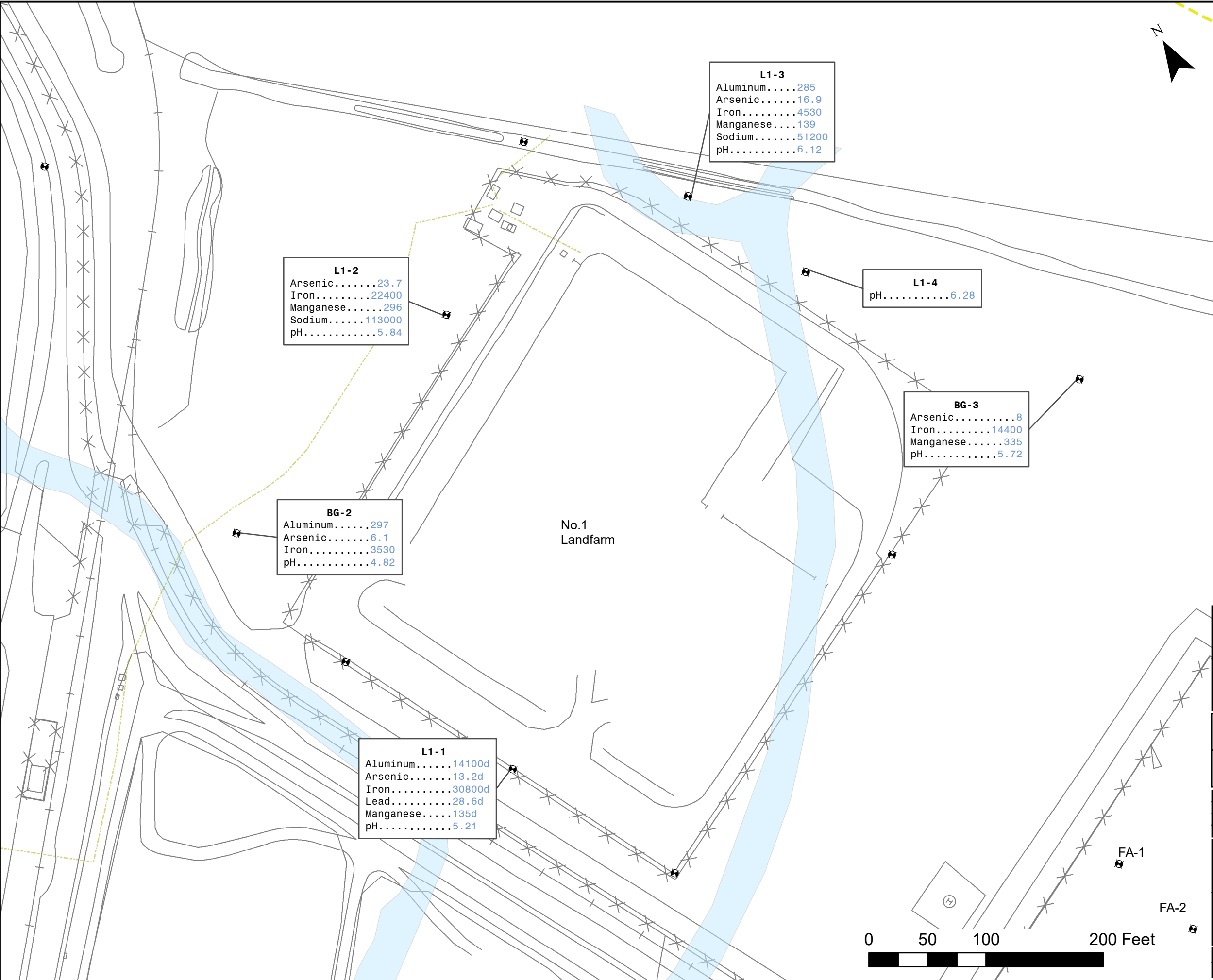
HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	12/16/2021
SRP PI#:	006148	Drawn By:	AE



Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
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LEGEND

- Monitoring Well
- Former Smith Creek Channel
- Sitewide Utilities

NJ Groundwater Criteria	
Arsenic	3
Iron	300
Lead	5
Manganese	50
Sodium	50000
pH	6.5-8.5

NOTE:
1. Monitoring Wells were Sampled on 07/13/2021
2. Results Measured in ug/l
3. d - Elevated sample detection limit due to difficult sample matrix.

FIGURE: 13
July 2021
No 1 Landfarm
Groundwater Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

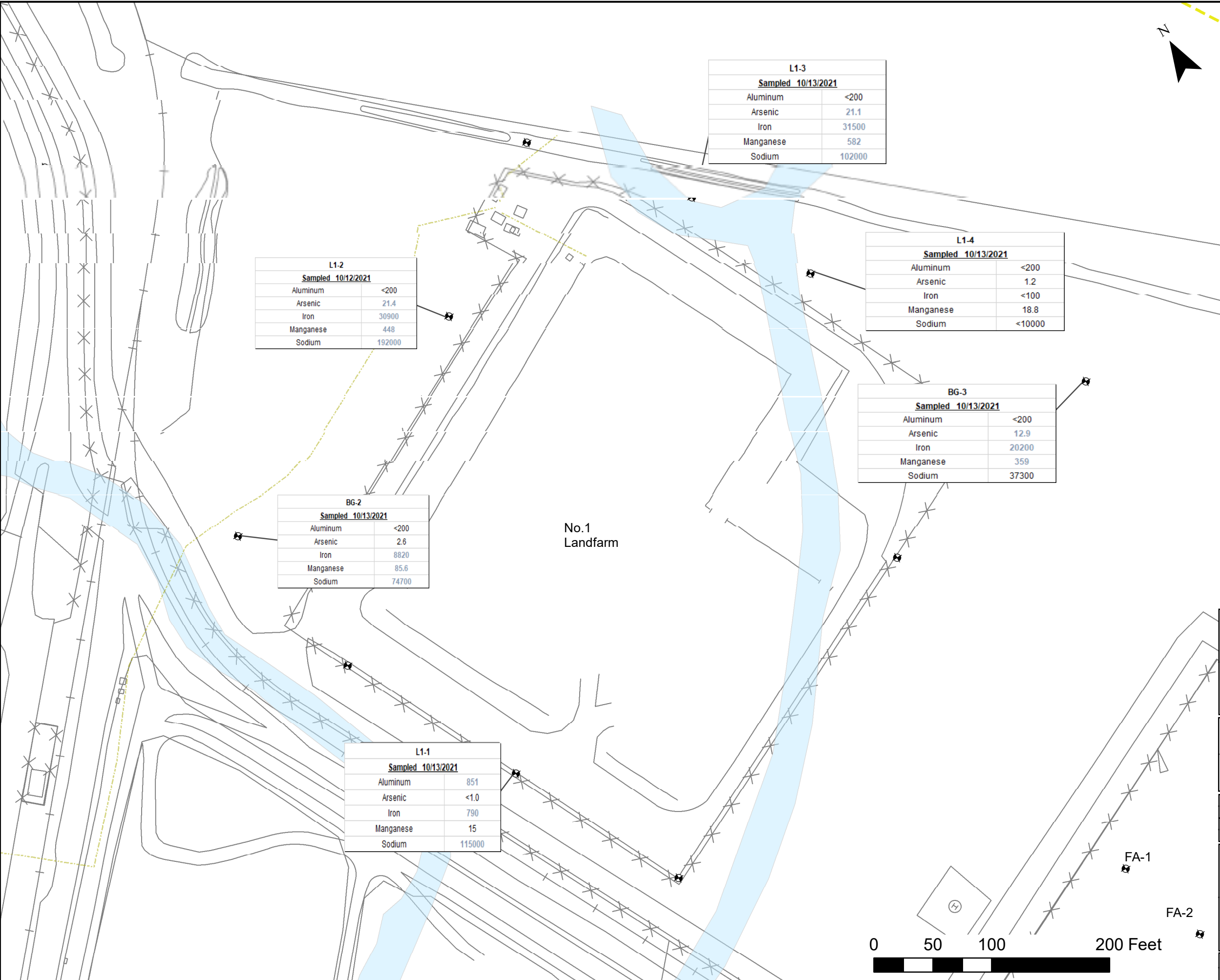
Project #:	1114J01	Drawn:	08/06/2021
SRP PI#:	006148	Drawn By:	AE

Earth Systems

Environmental Engineering

1625 Highway 71, Belmar, NJ 07719
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LEGEND

- Monitoring Well
- Former Smith Creek Channel
- Sitewide Utilities

NJ GroundWater Criteria	
Aluminum	200
Arsenic	3
Iron	300
Manganese	50
Sodium	50000

NOTE:
Results Measured in ug/l

FIGURE: 14
October 2021
No 1 Landfarm
Groundwater Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	01/21/2022
SRP PI#:	006148	Drawn By:	JP

Earth Systems

Environmental Engineering

1625 Highway 71, Belmar, NJ 07719

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TABLES

Table 1
Quarterly Landfarms Monitoring Well Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Groundwater Gauging Data						
Well I.D.	Date	Depth to Water	DTB from TOC	TOC Elevation	Water Elevation	PID
LN-SW	7/12/2021	3.00	NA	-0.31	3.31	NA
LN-1	7/12/2021	4.04	14.86	10.37	6.33	0.0
LN-2	7/12/2021	5.30	12.00	9.65	4.35	0.0
LN-3	7/12/2021	4.89	13.12	8.92	4.03	0.0
LN-4	7/12/2021	6.97	15.20	10.69	3.72	0.0
LN-5	7/12/2021	6.06	17.55	10.57	4.51	0.0
LN-6	7/12/2021	7.96	17.80	12.15	4.19	0.0
LN-7	7/12/2021	8.33	17.90	13.30	4.97	0.0
PER-4	7/12/2021	NM	16.45	10.30	#VALUE!	NM
LPG-2	7/12/2021	NM	9.60	7.05	#VALUE!	NM
DB-SW	7/12/2021	7.00	NA	-0.11	7.11	NA
LS-1R	7/12/2021	2.52	15.75	12.25	9.73	0.0
LS-2	7/12/2021	1.85	12.00	9.75	7.90	0.0
LS-3	7/12/2021	0.60	12.60	8.40	7.80	0.4
LS-4	7/12/2021	1.22	13.13	9.28	8.06	3.4
TM-6R	7/12/2021	4.06	19.80	14.26	10.20	7.3
PL-1RR	7/12/2021	0.40	14.70	7.36	6.96	7.8
PL-3R	7/12/2021	2.88	18.80	10.16	7.28	0.0
PL-6RR	7/12/2021	0.60	15.00	6.88	6.28	0.0
PL-9R	7/12/2021	1.61	19.90	9.11	7.50	0.0
L1-SW	7/12/2021	NM	NA	-0.20	#VALUE!	NA
L1-1	7/12/2021	NM	NM	9.91	#VALUE!	NM
L1-2	7/12/2021	5.68	14.90	9.05	3.37	0.0
L1-3	7/12/2021	6.05	10.90	9.33	3.28	0.0
L1-4	7/12/2021	6.98	10.95	10.85	3.87	0.0
BG-2	7/12/2021	1.86	9.20	6.96	5.10	0.0
BG-3	7/12/2021	2.79	10.70	10.31	7.52	0.0
SP-1	7/12/2021	NM	NM	8.95	#VALUE!	NM
SP-2	7/12/2021	NM	NM	10.18	#VALUE!	NM
SP-3	7/12/2021	3.33	16.90	9.33	6.00	0.0
*Anomalous measurement/not used in contour figure LNAPL - Light non Aqueous Phase Liquids						
NA - Not Applicable			DTB - Depth to Bottom			
All Measurements are in feet			TOC - Top of Casing		NM - Not Measured	

Table 1
Quarterly Landfarms Monitoring Well Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Groundwater Gauging Data						
Well I.D.	Date	Depth to Water	DTB from TOC	TOC Elevation	Water Elevation	PID
LN-SW	10/7/2021	3.00	NA	-0.31	3.31	NA
LN-1	10/7/2021	5.22	14.86	10.37	5.15	0.0
LN-2	10/7/2021	5.70	12.00	9.65	3.95	0.0
LN-3	10/7/2021	5.29	13.12	8.92	3.63	0.0
LN-4	10/7/2021	7.14	15.20	10.69	3.55	0.0
LN-5	10/7/2021	6.52	17.55	10.57	4.05	0.0
LN-6	10/7/2021	8.37	17.80	12.15	3.78	0.0
LN-7	10/7/2021	9.00	17.90	13.30	4.30	0.0
PER-4	10/7/2021	6.45	16.45	10.30	3.85	0.0
LPG-2	10/7/2021	3.75	9.60	7.05	3.30	0.0
DB-SW	10/7/2021	7.50	NA	-0.11	7.61	NA
LS-1R	10/7/2021	3.6	15.75	12.25	8.65	0.0
LS-2	10/7/2021	3.19	12.00	9.75	6.56	0.0
LS-3	10/7/2021	1.31	12.60	8.40	7.09	0.4
LS-4	10/7/2021	2.10	13.13	9.28	7.18	3.4
TM-6R	10/7/2021	3.89	19.80	14.26	10.37	7.3
PL-1RR	10/7/2021	1.23	14.70	7.36	6.13	7.8
PL-3R	10/7/2021	3.89	18.80	10.16	6.27	0.0
PL-6RR	10/7/2021	0.88	15.00	6.88	6.00	0.0
PL-9R	10/7/2021	2.65	19.90	9.11	6.46	0.0
L1-SW	10/7/2021	1.50	NA	-0.20	1.70	NA
L1-1	10/7/2021	NM	NM	9.91	#VALUE!	NM
L1-2	10/7/2021	5.82	14.90	9.05	3.23	0.0
L1-3	10/7/2021	6.38	10.90	9.33	2.95	0.0
L1-4	10/7/2021	7.62	10.95	10.85	3.23	0.0
BG-2	10/7/2021	2.02	9.20	6.96	4.94	0.0
BG-3	10/7/2021	3.41	10.70	10.31	6.90	0.0
SP-1	10/7/2021	NM	NM	8.95	#VALUE!	NM
SP-2	10/7/2021	NM	NM	10.18	#VALUE!	NM
SP-3	10/7/2021	3.57	16.90	9.33	5.76	0.0
*Anomalous measurement/not used in contour figur LNAPL - Light non Aqueous Phase Liquids						
NA - Not Applicable			DTB - Depth to Bottom			
All Measurements are in feet			TOC - Top of Casing		NM - Not Measured	

Table 2
North Landfarm July 2021 - Analytical Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID: Lab Sample ID: Date Sampled:		NJ Groundwater Criteria	NJ Interim Groundwater Criteria	LN-1	LN-2	LN-3	LN-4	LN-5	LN-6	LN-7
				JD28201-1 7/14/2021	JD28201-2 7/14/2021	JD28201-3 7/14/2021	JD28201-4 7/14/2021	JD28201-5 7/14/2021	JD28201-6 7/14/2021	JD28201-7 7/14/2021
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260D)										
Acetone	ug/l	6000	-	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^b
Benzene	ug/l	1	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Bromochloromethane	ug/l	-	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
Bromodichloromethane	ug/l	1	-	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)
Bromoform	ug/l	4	-	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)
Bromomethane	ug/l	10	-	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)
2-Butanone (MEK)	ug/l	300	-	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)
Carbon disulfide	ug/l	700	-	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)
Carbon tetrachloride	ug/l	1	-	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane	ug/l	-	5	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)
Chloroform	ug/l	70	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chloromethane	ug/l	-	-	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)
Cyclohexane	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
1,2-Dibromo-3-chloropropane	ug/l	0.02	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Dibromochloromethane	ug/l	1	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,2-Dibromomethane	ug/l	0.03	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
1,2-Dichlorobenzene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,3-Dichlorobenzene	ug/l	600	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,1-Dichloroethane	ug/l	50	-	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)
1,2-Dichloroethane	ug/l	2	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
1,1-Dichloroethene	ug/l	1	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,2-Dichloropropane	ug/l	1	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
cis-1,3-Dichloropropene	ug/l	-	-	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)
trans-1,3-Dichloropropene	ug/l	-	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Ethylbenzene	ug/l	700	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Freon 113	ug/l	20000	-	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)
2-Hexanone	ug/l	40	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Isopropylbenzene	ug/l	700	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Methyl Acetate	ug/l	7000	-	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)
Methylcyclohexane	ug/l	-	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Methyl Tert Butyl Ether	ug/l	70	-	ND (0.51)	ND (0.51)	ND (0.51)	0.63 J	ND (0.51)	ND (0.51)	ND (0.51)
4-Methyl-2-pentanol(MIBK)	ug/l	-	-	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Methylene chloride	ug/l	3	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	ug/l	100	-	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)	ND (5.8)	10.2	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)
1,1,2,2-Tetrachloroethane	ug/l	1	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Tetrachloroethene	ug/l	1	-	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)
Toluene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,2,3-Trichlorobenzene	ug/l	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,1,1-Trichloroethane	ug/l	30	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichloroethene	ug/l	1	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichlorofluoromethane	ug/l	2000	-	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Vinyl chloride	ug/l	1	-	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)
m,p-Xylene	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
o-Xylene	ug/l	-	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
MS Volatile TIC										
Total TIC, Volatile	ug/l	-	-	0	0	0	36.8 J	0	0	0
GC/LC Semi-volatiles (EPA 608.3)										
gamma-BHC (Lindane)	ug/l	0.03	-	ND (0.0045)	ND (0.0045)	ND (0.0050)	ND (0.0046)	ND (0.0050)	ND (0.0050)	ND (0.0046)
Endrin	ug/l	2	-	ND (0.0044)	ND (0.0044)	ND (0.0049)	ND (0.0045)	ND (0.0049)	ND (0.0049)	ND (0.0045)
Methoxychlor	ug/l	40	-	ND (0.0057)	ND (0.0057)	ND (0.0063)	ND (0.0058)	ND (0.0063)	ND (0.0063)	ND (0.0058)
Toxaphene	ug/l	2	-	ND (0.075)	ND (0.075)	ND (0.083)	ND (0.078)	ND (0.083)	ND (0.083)	ND (0.078)
GC/LC Semi-volatiles (SW846 8151A)										
2,4-D	ug/l	70	-	ND (0.066)	ND (0.066)	ND (0.066)	ND (0.066)	ND (0.066)	ND (0.066)	ND (0.066)
2,4,5-TP (Silvex)	ug/l	60	-	ND (0.042)	ND (0.042)	ND (0.042)	ND (0.042)	ND (0.042)	ND (0.042)	ND (0.042)
2,4,5-T	ug/l	-	-	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.013)
Dallapon	ug/l	200	-	ND (0.021)	ND (0.021)	ND (0.021)	ND (0.021)	ND (0.021)	ND (0.021)	ND (0.021)
Dicamba	ug/l	-	-	ND (0.021)	ND (0.021)	ND (0.021)	ND (0.021)	ND (0.021)	ND (0.021)	ND (0.021)
Dichloroprop	ug/l	-	-	ND (0.057)	ND (0.057)	ND (0.057)	ND (0.057)	ND (0.057)	ND (0.057)	ND (0.057)
Dinoseb	ug/l	7	-	ND (0.11) ^c	ND (0.11) ^c	ND (0.11) ^c	ND (0.11) ^c	ND (0.11) ^c	ND (0.11) ^c	ND (0.11) ^c
MCPA	ug/l	-	-	ND (15)	ND (15)	ND (15)	ND (15)	ND (15)	16.0 JB	18.4 JB
MCPP	ug/l	7	-	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)
Pentachlorophenol	ug/l	0.3	-	0.014 JB ^d	0.016 JB ^d	0.014 JB ^d	0.012 JB ^d	0.046 JB ^d	0.018 JB ^d	0.020 JB ^d
2,4-DB	ug/l	-	-	ND (0.097)	ND (0.097)	ND (0.097)	ND (0.097)	ND (0.097)	ND (0.097)	ND (0.097)
Metals Analysis										
Aluminum	ug/l	200	-	383	<200	<200	<200	1500	<200	<200
Antimony	ug/l	6	-	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
Arsenic	ug/l	3	-	<3.0	<3.0	5.9	12.3	<3.0	<3.0	3.7
Barium	ug/l	6000	-	<200	<200	<200	222	<200	<200	<200
Beryllium	ug/l	1	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	ug/l	4	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Calcium	ug/l	-	-	34300	24600	64300	37400	6920	37100	38000
Chromium	ug/l	70	-	<10	<10	<10	<10	<10	<10	<10
Cobalt	ug/l	100	-	<50	<50	<50	<50	<50	<50	<50
Copper	ug/l	1300	-	118	<10	<10	<10	17.9	<10	<10
Iron	ug/l	300	-	41500	18800	55800	24700	2920	21000	25400
Lead	ug/l	5	-	5.3	<3.0	<3.0	<3.0	4.3	<3.0	<3.0
Magnesium	ug/l	-	-	12300	9790	16500	26900	7050	11400	16900
Manganese	ug/l	50	-	784	302	758	546	33.1	524	701
Mercury	ug/l	2	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	ug/l	100	-	<10	<10	<10	<10	<10	<10	<10
Potassium	ug/l	-	-	18000	13100	19600	16000	<10000	11400	16200
Selenium	ug/l	40	-	<10	<10	12.2	<10	10.9	<10	10.3
Silver	ug/l	40	-	<10	<10	<10	<10	<10	<10	<10
Sodium	ug/l	50000	-	169000	107000	277000	407000	45100	123000	93700
Thallium	ug/l	2	-	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/l	-	-	<50	<50	<50	<50	<50	<50	<50
Zinc	ug/l	2000	-	171	<20	34.4	<20	311	58	<20
General Chemistry										
Chloride	ug/l	250000	-	286000	155000	428000	609000	15400	108000	157000
Fluoride	ug/l	2000	-	1900	1300	860	1000	<200	840	1400
Nitrogen, Ammonia	ug/l	3000	-	4500	2300	4600	2300	<200	1400	3100
Nitrogen, Nitrate	ug/l	10000	-	<110 ^a	<110 ^a	<110 ^a	<110 ^a	810 ^a	<110 ^a	<110 ^a
Nitrogen, Nitrate + Nitrite	ug/l	10000	-	<100	<100	<100	<100	810	<100	<100
Nitrogen, Nitrite	ug/l	1000	-	<10	<10	<10	<10	<10	<10	<10
Phenols	ug/l	-	-	<200	<200	<200	<200	<200	<200	<200
Solids, Total Dissolved	ug/l	500000	-	115000	250000	656000	690000	200000	40000	160000
Specific Conductivity	umhos/cm	-	-	1320	824	1880	2410	338	663	892
Sulfate	ug/l	250000	-	43600	<					

Table 3
North Landfarm October 2021 - Analytical Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	NJ Interim Groundwater Criteria	LN-1	LN-2	LN-3	LN-4	LN-5	LN-6	LN-7
Lab Sample ID:				JD33583-3	JD33583-4	JD33583-5	JD33583-6	JD33583-7	JD33583-8	JD33583-9
Date Sampled:				10/14/2021	10/14/2021	10/14/2021	10/14/2021	10/14/2021	10/14/2021	10/14/2021
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260D)										
Acetone	ug/l	6000	-	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^a	ND (3.1) ^a
Benzene	ug/l	1	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Bromochloromethane	ug/l	-	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
Bromodichloromethane	ug/l	1	-	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)
Bromoform	ug/l	4	-	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)
Bromomethane	ug/l	10	-	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)
2-Butanone (MEK)	ug/l	300	-	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)
Carbon disulfide	ug/l	700	-	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)
Carbon tetrachloride	ug/l	1	-	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane	ug/l	-	5	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)
Chloroform	ug/l	70	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chloromethane	ug/l	-	-	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)
Cyclohexane	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	1.2 J	ND (0.78)	ND (0.78)	1.3 J
1,2-Dibromo-3-chloropropane	ug/l	0.02	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Dibromochloromethane	ug/l	1	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,2-Dibromoethane	ug/l	0.03	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
1,2-Dichlorobenzene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,3-Dichlorobenzene	ug/l	600	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	ND (0.56) ^b	ND (0.56) ^b	ND (0.56) ^b	ND (0.56) ^b	ND (0.56) ^b	ND (0.56) ^b	ND (0.56) ^b
1,1-Dichloroethane	ug/l	50	-	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)
1,2-Dichloroethane	ug/l	2	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
1,1-Dichloroethene	ug/l	1	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,2-Dichloropropane	ug/l	1	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
cis-1,3-Dichloropropene	ug/l	-	-	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)
trans-1,3-Dichloropropene	ug/l	-	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Ethylbenzene	ug/l	700	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Freon 113	ug/l	20000	-	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)
2-Hexanone	ug/l	40	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Isopropylbenzene	ug/l	700	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Methyl Acetate	ug/l	7000	-	ND (0.80) ^b	ND (0.80) ^b	ND (0.80) ^b	ND (0.80) ^b	ND (0.80) ^b	ND (0.80) ^b	ND (0.80) ^b
Methycyclohexane	ug/l	-	-	ND (0.60)	ND (0.60)	ND (0.60)	2.0 J	ND (0.60)	ND (0.60)	ND (0.60)
Methyl Tert Butyl Ether	ug/l	70	-	0.52 J	ND (0.51)	ND (0.51)	0.73 J	ND (0.51)	ND (0.51)	ND (0.51)
4-Methyl-2-pentanone(MIBK)	ug/l	-	-	ND (1.9) ^b	ND (1.9) ^b	ND (1.9) ^b	ND (1.9) ^b	ND (1.9) ^b	ND (1.9) ^b	ND (1.9) ^b
Methylene chloride	ug/l	3	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	ug/l	100	-	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)	ND (5.8)	14.7	8.4 J	ND (5.8)	ND (5.8)	ND (5.8)
1,1,2,2-Tetrachloroethane	ug/l	1	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Tetrachloroethene	ug/l	1	-	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)
Toluene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,2,3-Trichlorobenzene	ug/l	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,1,1-Trichloroethane	ug/l	30	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichloroethene	ug/l	1	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichlorofluoromethane	ug/l	2000	-	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Vinyl chloride	ug/l	1	-	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)
m,p-Xylene	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
o-Xylene	ug/l	-	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
MS Volatile TIC										
Total TIC, Volatile	ug/l	-	-	0	0	5.3 J	154.5 J	0	0	5.9 J
GC/LC Semi-volatiles (EPA 608.3)										
gamma-BHC (Lindane)	ug/l	0.03	-	ND (0.0048)	ND (0.0047)	ND (0.0048)	ND (0.0047)	ND (0.0047)	ND (0.0048)	ND (0.0048)

Table 3
North Landfarm October 2021 - Analytical Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	NJ Interim Groundwater Criteria	LN-1	LN-2	LN-3	LN-4	LN-5	LN-6	LN-7
Lab Sample ID:				JD33583-3	JD33583-4	JD33583-5	JD33583-6	JD33583-7	JD33583-8	JD33583-9
Date Sampled:				10/14/2021	10/14/2021	10/14/2021	10/14/2021	10/14/2021	10/14/2021	10/14/2021
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Endrin	ug/l	2		ND (0.0048)	ND (0.0047)	0.0084 J ^c	ND (0.0047)	ND (0.0047)	ND (0.0048)	ND (0.0048)
Methoxychlor	ug/l	40		ND (0.0061)	ND (0.0060)	ND (0.0061)	ND (0.0060)	ND (0.0060)	ND (0.0061)	ND (0.0061)
Toxaphene	ug/l	2		ND (0.080)	ND (0.079)	ND (0.080)	ND (0.079)	ND (0.079)	ND (0.080)	ND (0.080)
GC/IC Semi-volatiles (SW846 8151A)										
2,4-D	ug/l	70		ND (0.062)	ND (0.066)	ND (0.066)	ND (0.069)	ND (0.062)	ND (0.066)	ND (0.071)
2,4,5-TP (Silvex)	ug/l	60		ND (0.039)	ND (0.042)	ND (0.042)	ND (0.043)	ND (0.039)	ND (0.042)	ND (0.045)
2,4,5-T	ug/l			ND (0.012)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.013)	ND (0.014)
Dalapon	ug/l	200		ND (0.020)	ND (0.021)	ND (0.021)	ND (0.022)	ND (0.020)	ND (0.021)	ND (0.023)
Dicamba	ug/l			ND (0.019)	ND (0.021)	ND (0.021)	ND (0.021)	ND (0.019)	ND (0.021)	ND (0.022)
Dichloroprop	ug/l			ND (0.053) ^d	ND (0.057) ^d	ND (0.057) ^d	ND (0.059) ^d	ND (0.053) ^d	ND (0.057) ^d	ND (0.061) ^d
Dinoseb	ug/l	7		ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.12)
MCPA	ug/l	-	-	254 EB ^a	811 EB ^a	491 EB ^a	1770 EB ^a	822 EB ^a	772 EB ^a	685 EB ^a
MCPP	ug/l	7	-	ND (20) ^d	ND (22) ^d	ND (22) ^d	ND (22) ^d	ND (20) ^d	ND (22) ^d	ND (23) ^d
Pentachlorophenol	ug/l	0.3	-	0.018 J	0.014 J	0.013 J	0.014 J	0.015 J	0.013 J	ND (0.010)
2,4-DB	ug/l	-	-	ND (0.091)	ND (0.097)	ND (0.097)	ND (0.10)	ND (0.091)	ND (0.097)	ND (0.10)
Metals Analysis										
Aluminum	ug/l	200	-	1150	<200	<200	<200	1550	<200	<200
Antimony	ug/l	6	-	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
Arsenic	ug/l	3	-	3	3.5	8.5	13.2	<3.0	7.7	5.2
Barium	ug/l	6000	-	<200	<200	<200	<200	<200	<200	<200
Beryllium	ug/l	1	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	ug/l	4	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Calcium	ug/l	-	-	33700	22400	45300	34000	6570	30700	39100
Chromium	ug/l	70	-	<10	<10	<10	<10	<10	<10	<10
Cobalt	ug/l	100	-	<50	<50	<50	<50	<50	<50	<50
Copper	ug/l	1300	-	<10	<10	<10	<10	<10	<10	<10
Iron	ug/l	300	-	47400	17000	40200	20200	3300	24100	27400
Lead	ug/l	5	-	5.9	<3.0	<3.0	<3.0	7.3	<3.0	<3.0
Magnesium	ug/l	-	-	12800	8110	14500	24200	6000	12300	14600
Manganese	ug/l	50	-	772	254	692	468	34.2	527	774
Mercury	ug/l	2	-	0.28	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	ug/l	100	-	<10	<10	<10	<10	<10	<10	<10
Potassium	ug/l	-	-	18500	11300	15200	13800	<10000	13900	14600
Selenium	ug/l	40	-	<10	<10	<10	<10	<10	<10	<10
Silver	ug/l	40	-	<10	<10	<10	<10	<10	<10	<10
Sodium	ug/l	50000	-	183000	92500	206000	274000	27500	141000	111000
Thallium	ug/l	2	-	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/l		-	<50	<50	<50	<50	<50	<50	<50
Zinc	ug/l	2000	-	<20	<20	<20	<20	47.8	<20	<20
General Chemistry										
Chloride	mg/l	250		385	132	291	458	17.6	187	156
Fluoride	mg/l	2		1.3	1.2	0.88	1	<0.20	1.4	0.89
Nitrogen, Ammonia	mg/l	3		6.1	2.2	5.9	2.4	<0.20	4.7	2.5
Nitrogen, Nitrate	mg/l	10		<0.11 ^f	<0.11 ^f	<0.11 ^f	<0.11 ^f	0.84 ^f	<0.11 ^f	<0.11 ^f
Nitrogen, Nitrate + Nitrite	mg/l	10	-	<0.10	<0.10	<0.10	<0.10	0.84	<0.10	<0.10
Nitrogen, Nitrite	mg/l	1	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phenols	mg/l	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Solids, Total Dissolved	mg/l	500	-	140	30	230	560	107	70	<10
Specific Conductivity	umhos/cm	-	-	1420	683	1390	1790	271	945	726
Sulfate	mg/l	250	-	7.7	3.8	<2.0	<2.0	66.5	24	9.8
Total Organic Carbon	mg/l	-	-	10.3	4.3	25.5	5.6	5.6	5.7	6.1
Total Organic Halides	mg/l	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Footnotes:

a Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND. This compound in blank spike is outside in house QC limits bias high.

b Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.

c More than 40 % RPD for detected concentrations between the two GC columns.

d Reported from 2nd signal. %RSD of initial calibration on 1st signal exceed method criteria (20 %) so using for confirmation only.

e Reported from 2nd signal. %RSD of initial calibration on 1st signal exceed method criteria (20%) so using for confirmation only.

f Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Table 4
South Landfarm July 2021 - Analytical Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	NJ Interim Groundwater Criteria	LS-1R	LS-2	LS-3	LS-4
Lab Sample ID:				JD28307-3	JD28307-4	JD28307-5	JD28307-6
Date Sampled:				7/15/2021	7/15/2021	7/15/2021	7/15/2021
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260D)							
Acetone	ug/l	6000	-	ND (3.1) ^a	ND (3.1) ^a	34.9	9.9 J
Benzene	ug/l	1	-	ND (0.43)	ND (0.43)	7	7.9
Bromochloromethane	ug/l	-	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
Bromodichloromethane	ug/l	1	-	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)
Bromoform	ug/l	4	-	ND (0.63) ^b	ND (0.63) ^b	ND (0.63)	ND (0.63)
Bromomethane	ug/l	10	-	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)
2-Butanone (MEK)	ug/l	300	-	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)
Carbon disulfide	ug/l	700	-	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)
Carbon tetrachloride	ug/l	1	-	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane	ug/l	-	5	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)
Chloroform	ug/l	70	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chloromethane	ug/l	-	-	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)
Cyclohexane	ug/l	-	-	ND (0.78)	2.1 J	ND (0.78)	1.0 J
1,2-Dibromo-3-chloropropane	ug/l	0.02	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Dibromochloromethane	ug/l	1	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,2-Dibromoethane	ug/l	0.03	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
1,2-Dichlorobenzene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,3-Dichlorobenzene	ug/l	600	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,1-Dichloroethane	ug/l	50	-	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)
1,2-Dichloroethane	ug/l	2	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
1,1-Dichloroethene	ug/l	1	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,2-Dichloropropane	ug/l	1	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
cis-1,3-Dichloropropene	ug/l	-	-	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)
trans-1,3-Dichloropropene	ug/l	-	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Ethylbenzene	ug/l	700	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Freon 113	ug/l	20000	-	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)
2-Hexanone	ug/l	40	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Isopropylbenzene	ug/l	700	-	ND (0.65)	1	1	1.5
Methyl Acetate	ug/l	7000	-	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)
Methylcyclohexane	ug/l	-	-	ND (0.60)	0.90 J	ND (0.60)	ND (0.60)
Methyl Tert Butyl Ether	ug/l	70	-	0.51 J	ND (0.51)	ND (0.51)	ND (0.51)
4-Methyl-2-pentanone(MIBK)	ug/l	-	-	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Methylene chloride	ug/l	3	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	ug/l	100	-	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)	ND (5.8)	1330	61.9
1,1,2,2-Tetrachloroethane	ug/l	1	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Tetrachloroethene	ug/l	1	-	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)
Toluene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,2,3-Trichlorobenzene	ug/l	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,1,1-Trichloroethane	ug/l	30	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichloroethene	ug/l	1	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichlorofluoromethane	ug/l	2000	-	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Vinyl chloride	ug/l	1	-	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)
m,p-Xylene	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	1.3
o-Xylene	ug/l	-	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	-	ND (0.59)	ND (0.59)	ND (0.59)	1.3
MS Volatile TIC							
Total TIC, Volatile	ug/l	-	-	0	5 J	174.8 J	85.7 J
Metals Analysis							
Arsenic	ug/l	3	-	10.5	43.9	11.7	24
Barium	ug/l	6000	-	<200	634	601	<200
Cadmium	ug/l	4	-	<3.0	<3.0	<3.0	<3.0
Chromium	ug/l	70	-	<10	<10	<10	<10
Iron	ug/l	300	-	7640	3630	119000	12300
Lead	ug/l	5	-	<3.0	<3.0	<3.0	<3.0
Manganese	ug/l	50	-	581	301	1960	246
Mercury	ug/l	2	-	<0.20	<0.20	<0.20	<0.20
Selenium	ug/l	40	-	<10	<10	11.8	<10
Silver	ug/l	40	-	<10	<10	<10	<10
Sodium	ug/l	50000	-	58900	102000	1440000	368000
General Chemistry							
Chloride	ug/l	250000	-	34100	198000	3080000	555000
Fluoride	ug/l	2000	-	750	<200	330	530
Nitrogen, Ammonia	ug/l	3000	-	940	1400	10500	33600
Nitrogen, Nitrate	ug/l	10000	-	<110 ^c	<110 ^c	<110 ^c	<110 ^c
Nitrogen, Nitrate + Nitrite	ug/l	10000	-	<100	<100	<100	<100
Nitrogen, Nitrite	ug/l	1000	-	<10	<10	<10	<10
Phenols	ug/l	-	-	<200	<200	<200	1400
Solids, Total Dissolved	ug/l	500000	-	127000	555000	5810000	1080000
Specific Conductivity	umhos/cm	-	-	428	1070	9950	2390
Sulfate	ug/l	250000	-	<2000	<2000	<2000	<2000
Total Organic Carbon	ug/l	-	-	11100	13500	62500	48800
Total Organic Halides	ug/l	-	-	<50	<50	180	60
pH	su	6.5-8.5	-	6.64	7.31	6.64	7.27

Footnotes:

^a Associated CCV outside of control limits low.

^b Associated CCV outside of control limits high, sample was ND.

^c Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	NJ Interim Groundwater Criteria	LS-1R	LS-2	LS-3	LS-4
Lab Sample ID:				JD33587-3	JD33587-4	JD33587-5	JD33587-6
Date Sampled:				10/15/2021	10/15/2021	10/15/2021	10/15/2021
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260D)							
Acetone	ug/l	6000	-	ND (3.1) ^a	ND (3.1) ^a	9.9 J ^a	12.7 ^a
Benzene	ug/l	1	-	ND (0.43)	ND (0.43)	1.1	5.1
Bromochloromethane	ug/l	-	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
Bromodichloromethane	ug/l	1	-	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)
Bromoform	ug/l	4	-	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)
Bromomethane	ug/l	10	-	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)
2-Butanone (MEK)	ug/l	300	-	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)
Carbon disulfide	ug/l	700	-	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)
Carbon tetrachloride	ug/l	1	-	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane	ug/l	-	5	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)
Chloroform	ug/l	70	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chloromethane	ug/l	-	-	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)
Cyclohexane	ug/l	-	-	ND (0.78)	1.3 J	2.3 J	1.2 J
1,2-Dibromo-3-chloropropane	ug/l	0.02	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Dibromochloromethane	ug/l	1	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,2-Dibromomethane	ug/l	0.03	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
1,2-Dichlorobenzene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,3-Dichlorobenzene	ug/l	600	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,1-Dichloroethane	ug/l	50	-	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)
1,2-Dichloroethane	ug/l	2	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
1,1-Dichloroethene	ug/l	1	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,2-Dichloropropane	ug/l	1	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
cis-1,3-Dichloropropene	ug/l	-	-	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)
trans-1,3-Dichloropropene	ug/l	-	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Ethylbenzene	ug/l	700	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Freon 113	ug/l	20000	-	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)
2-Hexanone	ug/l	40	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Isopropylbenzene	ug/l	700	-	ND (0.65)	ND (0.65)	1.8	1.3
Methyl Acetate	ug/l	7000	-	ND (0.80) ^b	ND (0.80) ^b	ND (0.80) ^b	ND (0.80) ^b
Methylcyclohexane	ug/l	-	-	ND (0.60)	ND (0.60)	1.1 J	ND (0.60)
Methyl Tert Butyl Ether	ug/l	70	-	0.87 J	ND (0.51)	ND (0.51)	ND (0.51)
4-Methyl-2-pentanone(MIBK)	ug/l	-	-	ND (1.9) ^b	ND (1.9) ^b	ND (1.9) ^b	ND (1.9) ^b
Methylene chloride	ug/l	3	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	ug/l	100	-	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)	ND (5.8)	1420	94.2
1,1,2,2-Tetrachloroethane	ug/l	1	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Tetrachloroethene	ug/l	1	-	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)
Toluene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,2,3-Trichlorobenzene	ug/l	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,1,1-Trichloroethane	ug/l	30	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichloroethene	ug/l	1	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichlorofluoromethane	ug/l	2000	-	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Vinyl chloride	ug/l	1	-	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)
m,p-Xylene	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	2.2
o-Xylene	ug/l	-	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	-	ND (0.59)	ND (0.59)	ND (0.59)	2.2
MS Volatile TIC							
Total TIC, Volatile	ug/l	-	-	0	0	188.3 J	104.2 J
Metals Analysis							
Aluminum	ug/l	200	-	<200	<200	<200	<200
Antimony	ug/l	6	-	<6.0	<6.0	6	<6.0
Arsenic	ug/l	3	-	8.1	26.4	4.3	22
Barium	ug/l	6000	-	<200	632	456	<200
Beryllium	ug/l	1	-	<1.0	<1.0	<1.0	<1.0
Cadmium	ug/l	4	-	<3.0	<3.0	3.1	<3.0
Calcium	ug/l	-	-	22600	72100	216000	44800
Chromium	ug/l	70	-	<10	<10	<10	<10
Cobalt	ug/l	100	-	<50	<50	<50	<50
Copper	ug/l	1300	-	<10	<10	<10	<10
Iron	ug/l	300	-	9180	1890	45200	9950
Lead	ug/l	5	-	<3.0	<3.0	<3.0	<3.0
Magnesium	ug/l	-	-	9050	25500	145000	27800
Manganese	ug/l	50	-	1290	180	1320	261
Mercury	ug/l	2	-	<0.20	<0.20	<0.20	<0.20
Nickel	ug/l	100	-	<10	<10	<10	<10
Potassium	ug/l	-	-	<10000	<10000	25600	21700
Selenium	ug/l	40	-	<10	<10	<10	<10
Silver	ug/l	40	-	<10	<10	12.4	<10
Sodium	ug/l	50000	-	70800	107000	1320000	423000
Thallium	ug/l	2	-	<10	<10	<10	<10
Vanadium	ug/l	-	-	<50	<50	<50	<50
Zinc	ug/l	2000	-	28.4	<20	<20	<20
General Chemistry							
Chloride	mg/l	250	-	52.4	211	3270	764
Fluoride	mg/l	2	-	0.84	<0.20	0.35	0.62
Nitrogen, Ammonia	mg/l	3	-	0.92	1.5	10	34.8
Nitrogen, Nitrate	mg/l	10	-	<0.11 ^c	<0.11 ^c	<0.11 ^c	<0.11 ^c
Nitrogen, Nitrate + Nitrite	mg/l	10	-	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite	mg/l	1	-	<0.010	<0.010	<0.010	<0.010
Phenols	mg/l	-	-	<0.20	0.71	<0.20	<0.20
Solids, Total Dissolved	mg/l	500	-	240	497	4740	1100
Specific Conductivity	umhos/cm	-	-	494	1160	9180	2780
Sulfate	mg/l	250	-	<2.0	<2.0	2.1	<2.0
Total Organic Carbon	mg/l	-	-	11.4	12.5	71.6	45
Total Organic Halides	mg/l	-	-	<0.10	<0.10	0.2	<0.10
Footnotes:							
^a This compound in blank spike is outside limits in house QC limits bias high.							
^b Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.							
^c Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)							

Table 6
No. 1 Landfarm July 2021 - Analytical Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria (NJAC 7-9C 9/4/18) ¹	NJ Interim Groundwater Criteria (NJAC 7-9C 1/17/19) ²	L1-1 JD28114-1 7/13/2021	L1-2 JD28114-3 7/13/2021	L1-3 JD28114-6 7/13/2021	L1-4 JD28114-7 7/13/2021	BG-2 JD28114-2 7/13/2021	BG-3 JD28114-8 7/13/2021
Lab Sample ID:									
Date Sampled:									
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260D)									
Acetone	ug/l	6000	-	4.3 J ^a	ND (3.1) ^b	ND (3.1) ^b	ND (3.1) ^b	5.9 J ^a	ND (3.1) ^b
Benzene	ug/l	1	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Bromochloromethane	ug/l	-	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
Bromodichloromethane	ug/l	1	-	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)
Bromoform	ug/l	4	-	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)
Bromomethane	ug/l	10	-	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)
2-Butanone (MEK)	ug/l	300	-	ND (6.9) ^b	ND (6.9) ^b	ND (6.9) ^b	ND (6.9) ^b	ND (6.9) ^b	ND (6.9) ^b
Carbon disulfide	ug/l	700	-	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.46)
Carbon tetrachloride	ug/l	1	-	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	-	ND (0.56)	18.8	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane	ug/l	-	5	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)
Chloroform	ug/l	70	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chloromethane	ug/l	-	-	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)
Cyclohexane	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
1,2-Dibromo-3-chloropropane	ug/l	0.02	-	ND (0.53) ^c	ND (0.53) ^c	ND (0.53) ^c	ND (0.53) ^c	ND (0.53) ^c	ND (0.53) ^c
Dibromochloromethane	ug/l	1	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,2-Dibromoethane	ug/l	0.03	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
1,2-Dichlorobenzene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,3-Dichlorobenzene	ug/l	600	-	ND (0.54)	0.65 J	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	ND (0.51)	1.5	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,1-Dichloroethane	ug/l	50	-	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)
1,2-Dichloroethane	ug/l	2	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
1,1-Dichloroethene	ug/l	1	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,2-Dichloropropane	ug/l	1	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
cis-1,3-Dichloropropene	ug/l	-	-	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)
trans-1,3-Dichloropropene	ug/l	-	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Ethylbenzene	ug/l	700	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Freon 113	ug/l	20000	-	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)
2-Hexanone	ug/l	40	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Isopropylbenzene	ug/l	700	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Methyl Acetate	ug/l	7000	-	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)
Methylcyclohexane	ug/l	-	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Methyl Tert Butyl Ether	ug/l	70	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
4-Methyl-2-pentanone(MIBK)	ug/l	-	-	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Methylene chloride	ug/l	3	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	ug/l	100	-	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)
1,1,2,2-Tetrachloroethane	ug/l	1	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Tetrachloroethene	ug/l	1	-	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)
Toluene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,2,3-Trichlorobenzene	ug/l	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,1,1-Trichloroethane	ug/l	30	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichloroethene	ug/l	1	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichlorofluoromethane	ug/l	2000	-	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Vinyl chloride	ug/l	1	-	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)
m,p-Xylene	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
o-Xylene	ug/l	-	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
MS Volatile TIC									
Total TIC, Volatile	ug/l	-	-	0	6.9 J	0	0	0	0
MS Semi-volatiles (SW846 8270E)									
2-Chlorophenol	ug/l	40	-	ND (0.80)	ND (0.82)	ND (0.78)	ND (0.80)	ND (0.80)	ND (0.78)
4-Chloro-3-methyl phenol	ug/l	-	100	ND (0.87)	ND (0.89)	ND (0.85)	ND (0.87)	ND (0.87)	ND (0.85)
2,4-Dichlorophenol	ug/l	20	-	ND (1.2)	ND (1.3)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)
2,4-Dimethylphenol	ug/l	100	-	ND (2.4)	ND (2.4)	ND (2.3)	ND (2.4)	ND (2.4)	ND (2.3)
2,4-Dinitrophenol	ug/l	40	-	ND (1.5)	ND (1.6)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)
2-Methylphenol	ug/l	50	-	ND (0.86)	ND (0.89)	ND (0.85)	ND (0.86)	ND (0.87)	ND (0.85)
3,4-Methylphenol	ug/l	50	-	ND (0.85)	ND (0.88)	ND (0.84)	ND (0.85)	ND (0.86)	ND (0.84)
2-Nitrophenol	ug/l	-	-	ND (0.93) ^c	ND (0.96) ^c	ND (0.91) ^c	ND (0.93) ^c	ND (0.94) ^c	ND (0.91) ^c
4-Nitrophenol	ug/l	-	-	ND (1.1) ^c	ND (1.2) ^c	ND (1.1) ^c	ND (1.1) ^c	ND (1.1) ^c	ND (1.1) ^c
Phenol	ug/l	2000	-	ND (0.38)	ND (0.39)	ND (0.37)	ND (0.38)	ND (0.38)	ND (0.37)
2,3,4,6-Tetrachlorophenol	ug/l	200	-	ND (1.4)	ND (1.5)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)
2,4,5-Trichlorophenol	ug/l	700	-	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)
2,4,6-Trichlorophenol	ug/l	20	-	ND (0.90)	ND (0.92)	ND (0.88)	ND (0.90)	ND (0.91)	ND (0.88)
Acenaphthene	ug/l	400	-	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.18)
Acenaphthylene	ug/l	-	100	ND (0.13)	ND (0.14)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)
Acetophenone	ug/l	700	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Anthracene	ug/l	2000	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)
Atrazine	ug/l	3	-	ND (0.43)	ND (0.45)	ND (0.43)	ND (0.43)	ND (0.44)	ND (0.43)
Benzaldehyde	ug/l	-	-	ND (0.28)	ND (0.29)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.28)
Benzof(g,h,i)perylene	ug/l	-	100	ND (0.33)	ND (0.34)	ND (0.32)	ND (0.33)	ND (0.33)	ND (0.32)
4-Bromophenyl phenyl ether	ug/l	-	-	ND (0.39)	ND (0.40)	ND (0.38)	ND (0.39)	ND (0.40)	ND (0.38)
Butyl benzyl phthalate	ug/l	100	-	ND (0.44)	ND (0.46)	ND (0.44)	ND (0.44)	ND (0.45)	ND (0.44)
1,1'-Biphenyl	ug/l	400	-	ND (0.21)	ND (0.21)	ND (0.20)	ND (0.21)	ND (0.21)	ND (0.20)
2-Chloronaphthalene	ug/l	600	-	ND (0.23)	ND (0.24)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.22)
4-Chloroaniline	ug/l	30	-	ND (0.33)	ND (0.34)	ND (0.32)	ND (0.33)	ND (0.33)	ND (0.32)
Carbazole	ug/l	-	-	ND (0.22)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)
Caprolactam	ug/l	4000	-	ND (0.63)	ND (0.65)	ND (0.62)	ND (0.63)	ND (0.64)	ND (0.62)
Chrysene	ug/l	5	-	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)
bis(2-Chloroethoxy)methane	ug/l	-	-	ND (0.27)	ND (0.28)	ND (0.26)	ND (0.27)	ND (0.27)	ND (0.26)
2,2'-Dichloroethyl ether	ug/l	7	-	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.24)
2,2'-Oxybis(1-chloropropane)	ug/l	300	-	ND (0.39)	ND (0.40)	ND (0.38)	ND (0.39)	ND (0.40)	ND (0.38)
4-Chlorophenyl phenyl ether	ug/l	-	-	ND (0.36)	ND (0.37)	ND (0.35)	ND (0.36)	ND (0.36)	ND (0.35)
2,4-Dinitrotoluene	ug/l	-	-	ND (0.54) ^c	ND (0.55) ^c	ND (0.53) ^c	ND (0.54) ^c	ND (0.54) ^c	ND (0.53) ^c
2,6-Dinitrotoluene	ug/l	-	-	ND (0.46)	ND (0.48)	ND (0.45)	ND (0.46)	ND (0.47)	ND (0.45)
3,3'-Dichlorobenzidine	ug/l	30	-	ND (0.49)	ND (0.51)	ND (0.48)	ND (0.49)	ND (0.50)	ND (0.48)
Dibenzofuran	ug/l	-	-	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.21)
Di-n-butyl phthalate	ug/l	700	-	ND (0.48)	ND (0.50)	ND (0.47)	ND (0.48)	ND (0.49)	ND (0.47)
Di-n-octyl phthalate	ug/l	100	-	ND (0.23)	ND (0.23)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.22)
Diethyl phthalate	ug/l	6000	-	ND (0.25)	ND (0.26)	ND (0.25)	ND (0.25)	ND (0.26)	ND (0.25)
Dimethyl phthalate	ug/l	-	100	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)
bis(2-Ethylhexyl)phthalate	ug/l	3	-	ND (1.6)	ND (1.7)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)
Fluoranthene	ug/l	300	-	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.16)
Fluorene	ug/l	300	-	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.16)
Hexachlorocyclopentadiene	ug/l	40	-	ND (2.7)	ND (2.7)	ND (2.6)	ND (2.7)	ND (2.7)	ND (2.6)
Hexachloroethane	ug/l	7	-	ND (0.38)	ND (0.39)	ND (0.37)	ND (0.38)	ND (0.38)	ND (0.37)
Isophorone	ug/l	40	-	ND (0.27)	ND (0.28)	ND (0.26)	ND (0.27)	ND (0.27)	ND (0.26)
2-Methylnaphthalene	ug/l	30	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)
2-Nitroaniline	ug/l	-	-	ND (0.27) ^c	ND (0.28) ^c	ND (0.26) ^c	ND (0.27) ^c	ND (0.27) ^c	ND (0.26) ^c
3-Nitroaniline	ug/l	-	-	ND (0.38)	ND (0.39)	ND (0.37)	ND (0.38)	ND (0.38)	ND (0.37)
4-Nitroaniline	ug/l	-	-	ND (0.43)	ND (0.44)	ND (0.42)	ND (0.43)	ND (0.43)	ND (0.42)
Naphthalene	ug/l	300	-	ND (0.23)	ND (0.23)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.22)
Nitrobenzene	ug/l	6	-	ND (0.62)	ND (0.64)	ND (0.61)	ND (0.62)	ND (0.63)	ND (0.61)
N-Nitroso-di-n-propylamine	ug/l	10	-	ND (0.47)	ND (0.48)	ND (0.46)	ND (0.47)	ND (0.47)	ND (0.46)
N-Nitrosodiphenylamine	ug/l	10	-	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.21)
Phenanthrene	ug/l	-	-	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)
Pyrene	ug/l	200	-	ND (0.21)	0.30 J	ND (0.21)	ND (0.21)	ND (0.21)	0.23 J

Table 6
No. 1 Landfarm July 2021 - Analytical Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18) ¹	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19) ²	L1-1 JD28114-1 7/13/2021	L1-2 JD28114-3 7/13/2021	L1-3 JD28114-6 7/13/2021	L1-4 JD28114-7 7/13/2021	BG-2 JD28114-2 7/13/2021	BG-3 JD28114-8 7/13/2021
Lab Sample ID:									
Date Sampled:									
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
1,2,4,5-Tetrachlorobenzene	ug/l	-	-	ND (0.36)	ND (0.37)	ND (0.35)	ND (0.36)	ND (0.36)	ND (0.35)
MS Semi-volatiles (SW846 8270E BY SIM)									
4,6-Dinitro-o-cresol	ug/l	0.7	-	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)
Pentachlorophenol	ug/l	0.3	-	ND (0.13) ^c	ND (0.13) ^c	ND (0.12) ^c	ND (0.13) ^c	ND (0.13) ^c	ND (0.12) ^c
Benzo(a)anthracene	ug/l	0.1	-	ND (0.022)	ND (0.023)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)
Benzo(a)pyrene	ug/l	0.1	-	ND (0.032)	ND (0.033)	ND (0.032)	ND (0.032)	0.0330 J	ND (0.032)
Benzo(b)fluoranthene	ug/l	0.2	-	ND (0.042)	ND (0.043)	ND (0.041)	ND (0.042)	0.063	ND (0.041)
Benzo(k)fluoranthene	ug/l	0.5	-	ND (0.049)	ND (0.050)	ND (0.048)	ND (0.049)	ND (0.049)	ND (0.048)
Dibenzo(a,h)anthracene	ug/l	0.3	-	ND (0.049)	ND (0.050)	ND (0.048)	ND (0.049)	ND (0.049)	ND (0.048)
Hexachlorobenzene	ug/l	0.02	-	ND (0.011)	0.0169	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)
Hexachlorobutadiene	ug/l	1	-	ND (0.049)	ND (0.050)	ND (0.048)	ND (0.049)	ND (0.049)	ND (0.048)
Indeno(1,2,3-cd)pyrene	ug/l	0.2	-	ND (0.049)	ND (0.050)	ND (0.048)	ND (0.049)	ND (0.049)	ND (0.048)
1,4-Dioxane	ug/l	0.4	-	ND (0.049)	ND (0.050)	ND (0.048)	ND (0.049)	ND (0.049)	ND (0.048)
MS Semi-volatile TIC									
Total TIC, Semi-Volatile	ug/l	-	-	0	45 J	0	23 J	5.1 J	0
Metals Analysis									
Aluminum	ug/l	200	-	14100 ^d	<200	285	<200	297	<200
Arsenic	ug/l	3	-	13.2 ^d	23.7	16.9	<3.0	6.1	8
Barium	ug/l	6000	-	<400 ^d	322	<200	<200	<200	<200
Cadmium	ug/l	4	-	<6.0 ^d	<3.0	<3.0	<3.0	<3.0	<3.0
Chromium	ug/l	70	-	36.6 ^d	<10	<10	<10	<10	<10
Iron	ug/l	300	-	30800 ^d	22400	4530	149	3530	14400
Lead	ug/l	5	-	28.6 ^d	<3.0	<3.0	<3.0	<3.0	<3.0
Manganese	ug/l	50	-	135 ^d	296	139	<15	38.5	335
Mercury	ug/l	2	-	<0.60 ^d	<0.20	<0.20	<0.20	<0.20	<0.20
Selenium	ug/l	40	-	<20 ^d	<10	<10	<10	<10	<10
Silver	ug/l	40	-	<20 ^d	<10	<10	<10	<10	<10
Sodium	ug/l	50000	-	28400 ^d	113000	51200	<10000	20800	20500
General Chemistry									
Cyanide	ug/l	100	-	<10	<10	<10	<10	<10	<10
Nitrogen, Ammonia	ug/l	3000	-	<200	1700	<200	<200	310	540
Phenols	ug/l	-	-	<200	<200	<200	380	<200	<200

Footnotes:

^a Associated CCV outside of control limits high. This compound in blank spike is outside in house QC limits bias high.

^b Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

^c Associated CCV outside of control limits high, sample was ND.

^d Elevated sample detection limit due to difficult sample matrix.

Table 7
No. 1 Landfarm October 2021 - Analytical Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	NJ Interim Groundwater Criteria	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:				JD33461-2	JD33461-3	JD33461-4	JD33461-5	JD33461-6	JD33461-7
Date Sampled:				10/13/2021	10/13/2021	10/13/2021	10/13/2021	10/13/2021	10/13/2021
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260D)									
Acetone	ug/l	6000	-	ND (3.1)	ND (3.1)	ND (3.1)	ND (3.1)	ND (3.1)	ND (3.1)
Benzene	ug/l	1	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Bromochloromethane	ug/l	-	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
Bromodichloromethane	ug/l	1	-	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)
Bromoform	ug/l	4	-	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)
Bromomethane	ug/l	10	-	ND (1.6) ^b	ND (1.6) ^b	ND (1.6) ^b	ND (1.6) ^b	ND (1.6) ^b	ND (1.6) ^b
2-Butanone (MEK)	ug/l	300	-	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)
Carbon disulfide	ug/l	700	-	ND (0.46) ^c	ND (0.46) ^c	ND (0.46) ^c	ND (0.46) ^c	ND (0.46) ^c	ND (0.46) ^c
Carbon tetrachloride	ug/l	1	-	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	-	ND (0.56)	15.7	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane	ug/l	-	5	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)
Chloroform	ug/l	70	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chloromethane	ug/l	-	-	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)
Cyclohexane	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
1,2-Dibromo-3-chloropropane	ug/l	0.02	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Dibromochloromethane	ug/l	1	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,2-Dibromoethane	ug/l	0.03	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
1,2-Dichlorobenzene	ug/l	600	-	ND (0.53)	0.55 J	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,3-Dichlorobenzene	ug/l	600	-	ND (0.54)	0.81 J	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	ND (0.51)	1.9	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,1-Dichloroethane	ug/l	50	-	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)
1,2-Dichloroethane	ug/l	2	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
1,1-Dichloroethene	ug/l	1	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	-	ND (0.51)	0.57 J	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,2-Dichloropropane	ug/l	1	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
cis-1,3-Dichloropropene	ug/l	-	-	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)
trans-1,3-Dichloropropene	ug/l	-	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Ethylbenzene	ug/l	700	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Freon 113	ug/l	20000	-	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)
2-Hexanone	ug/l	40	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Isopropylbenzene	ug/l	700	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Methyl Acetate	ug/l	7000	-	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)
Methylcyclohexane	ug/l	-	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Methyl Tert Butyl Ether	ug/l	70	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
4-Methyl-2-pentanone(MIBK)	ug/l	-	-	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Methylene chloride	ug/l	3	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	ug/l	100	-	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)
1,1,2,2-Tetrachloroethane	ug/l	1	-	ND (0.65) ^a	ND (0.65) ^a	ND (0.65) ^a	ND (0.65) ^a	ND (0.65) ^a	ND (0.65) ^a
Tetrachloroethene	ug/l	1	-	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)
Toluene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,2,3-Trichlorobenzene	ug/l	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,1,1-Trichloroethane	ug/l	30	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichloroethene	ug/l	1	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichlorofluoromethane	ug/l	2000	-	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Vinyl chloride	ug/l	1	-	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)
m,p-Xylene	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
o-Xylene	ug/l	-	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
MS Volatile TIC									
Total TIC, Volatile	ug/l	-	-	0	5.1 J	0	0	0	0
MS Semi-volatiles (SW846 8270E)									
2-Chlorophenol	ug/l	40	-	ND (0.79)	ND (0.82)	ND (0.78)	ND (0.78)	ND (0.83)	ND (0.82)
4-Chloro-3-methyl phenol	ug/l	-	100	ND (0.86)	ND (0.89)	ND (0.85)	ND (0.85)	ND (0.90)	ND (0.89)
2,4-Dichlorophenol	ug/l	20	-	ND (1.2)	ND (1.3)	ND (1.2)	ND (1.2)	ND (1.3)	ND (1.3)
2,4-Dimethylphenol	ug/l	100	-	ND (2.3)	ND (2.4)	ND (2.3)	ND (2.3)	ND (2.5)	ND (2.4)
2,4-Dinitrophenol	ug/l	40	-	ND (1.5)	ND (1.6)	ND (1.5)	ND (1.5)	ND (1.6)	ND (1.6)
4,6-Dinitro-o-cresol	ug/l	0.7	-	ND (1.2)	ND (1.3)	ND (1.2)	ND (1.2)	ND (1.3)	ND (1.3)
2-Methylphenol	ug/l	50	-	ND (0.85) ^a	ND (0.89) ^a	ND (0.85) ^a	ND (0.85) ^a	ND (0.90) ^a	ND (0.89) ^a
3&4-Methylphenol	ug/l	50	-	ND (0.85)	ND (0.88)	ND (0.84)	ND (0.84)	ND (0.89)	ND (0.88)
2-Nitrophenol	ug/l	-	-	ND (0.92)	ND (0.96)	ND (0.92)	ND (0.92)	ND (0.97)	ND (0.96)
4-Nitrophenol	ug/l	-	-	ND (1.1)	ND (1.2)	ND (1.1)	ND (1.1)	ND (1.2)	ND (1.2) ^a
Pentachlorophenol	ug/l	0.3	-	ND (1.3)	ND (1.4)	ND (1.3)	ND (1.3)	ND (1.4)	ND (1.4)
Phenol	ug/l	2000	-	ND (0.38)	ND (0.39)	ND (0.38)	ND (0.38)	ND (0.40)	ND (0.39)
2,3,4,6-Tetrachlorophenol	ug/l	200	-	ND (1.4)	ND (1.5)	ND (1.4)	ND (1.4)	ND (1.5)	ND (1.5) ^a
2,4,5-Trichlorophenol	ug/l	700	-	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)
2,4,6-Trichlorophenol	ug/l	20	-	ND (0.89)	ND (0.92)	ND (0.88)	ND (0.88)	ND (0.93)	ND (0.92)
Acenaphthene	ug/l	400	-	ND (0.18)	ND (0.19)	0.37 J	ND (0.18)	ND (0.19)	ND (0.19)
Acenaphthylene	ug/l	-	100	ND (0.13)	ND (0.14)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.14)
Acetophenone	ug/l	700	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)
Anthracene	ug/l	2000	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)
Atrazine	ug/l	3	-	ND (0.43)	ND (0.45)	ND (0.43)	ND (0.43)	ND (0.45)	ND (0.45)
Benzaldehyde	ug/l	-	-	ND (0.28)	ND (0.29)	ND (0.28)	ND (0.28)	ND (0.29)	ND (0.29)
Benzo(a)anthracene	ug/l	0.1	-	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.20)
Benzo(a)pyrene	ug/l	0.1	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.21)
Benzo(b)fluoranthene	ug/l	0.2	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)
Benzo(g,h,i)perylene	ug/l	-	100	ND (0.33)	ND (0.34)	ND (0.33)	ND (0.33)	ND (0.34)	ND (0.34)

Table 7
No. 1 Landfarm October 2021 - Analytical Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	NJ Interim Groundwater Criteria	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:				JD33461-2	JD33461-3	JD33461-4	JD33461-5	JD33461-6	JD33461-7
Date Sampled:				10/13/2021	10/13/2021	10/13/2021	10/13/2021	10/13/2021	10/13/2021
Matrix:				Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Benzo(k)fluoranthene	ug/l	0.5	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)
4-Bromophenyl phenyl ether	ug/l	-	-	ND (0.39)	ND (0.40)	ND (0.39)	ND (0.39)	ND (0.41)	ND (0.40)
Butyl benzyl phthalate	ug/l	100	-	ND (0.44)	ND (0.46)	ND (0.44)	ND (0.44)	ND (0.46)	ND (0.46)
1,1'-Biphenyl	ug/l	400	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)
2-Chloronaphthalene	ug/l	600	-	ND (0.23)	ND (0.24)	ND (0.23)	ND (0.23)	ND (0.24)	ND (0.24)
4-Chloroaniline	ug/l	30	-	ND (0.33)	ND (0.34)	ND (0.33)	ND (0.33)	ND (0.34)	ND (0.34)
Carbazole	ug/l	-	-	ND (0.22)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.23)
Caprolactam	ug/l	4000	-	ND (0.62)	ND (0.65)	ND (0.62)	ND (0.62)	ND (0.66)	ND (0.65)
Chrysene	ug/l	5	-	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)
bis(2-Chloroethoxy)methane	ug/l	-	-	ND (0.27)	ND (0.28)	ND (0.27)	ND (0.27)	ND (0.28)	ND (0.28)
bis(2-Chloroethyl)ether	ug/l	7	-	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.24)	ND (0.25)	ND (0.25)
2,2'-Oxybis(1-chloropropane)	ug/l	300	-	ND (0.39)	ND (0.40)	ND (0.39)	ND (0.39)	ND (0.41)	ND (0.40)
4-Chlorophenyl phenyl ether	ug/l	-	-	ND (0.35)	ND (0.37)	ND (0.35)	ND (0.35)	ND (0.37)	ND (0.37)
2,4-Dinitrotoluene	ug/l	-	-	ND (0.53)	ND (0.55)	ND (0.53)	ND (0.53)	ND (0.56)	ND (0.55)
2,6-Dinitrotoluene	ug/l	-	-	ND (0.46)	ND (0.48)	ND (0.46)	ND (0.46)	ND (0.48)	ND (0.48)
3,3'-Dichlorobenzidine	ug/l	30	-	ND (0.49)	ND (0.51)	ND (0.49)	ND (0.49)	ND (0.51)	ND (0.51)
1,4-Dioxane	ug/l	0.4	-	ND (0.63)	ND (0.66)	ND (0.63)	ND (0.63)	ND (0.66)	ND (0.66)
Dibenzo(a,h)anthracene	ug/l	0.3	-	ND (0.32)	ND (0.33)	ND (0.32)	ND (0.32)	ND (0.33)	ND (0.33)
Dibenzofuran	ug/l	-	-	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)
Di-n-butyl phthalate	ug/l	700	-	ND (0.48)	ND (0.50)	ND (0.47)	ND (0.47)	ND (0.50)	ND (0.50)
Di-n-octyl phthalate	ug/l	100	-	ND (0.22)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.24)	ND (0.23)
Diethyl phthalate	ug/l	6000	-	ND (0.25)	ND (0.26)	ND (0.25)	ND (0.25)	ND (0.26)	ND (0.26)
Dimethyl phthalate	ug/l	-	100	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)
bis(2-Ethylhexyl)phthalate	ug/l	3	-	ND (1.6)	ND (1.7)	ND (1.6)	ND (1.6)	ND (1.7)	ND (1.7)
Fluoranthene	ug/l	300	-	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.17)
Fluorene	ug/l	300	-	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.17)
Hexachlorobenzene	ug/l	0.02	-	ND (0.31)	ND (0.33)	ND (0.31)	ND (0.31)	ND (0.33)	ND (0.33)
Hexachlorobutadiene	ug/l	1	-	ND (0.47)	ND (0.49)	ND (0.47)	ND (0.47)	ND (0.50)	ND (0.49)
Hexachlorocyclopentadiene	ug/l	40	-	ND (2.7) ^a	ND (2.8) ^a	ND (2.7) ^a	ND (2.7) ^a	ND (2.8) ^a	ND (2.8) ^a
Hexachloroethane	ug/l	7	-	ND (0.37)	ND (0.39)	ND (0.37)	ND (0.37)	ND (0.39)	ND (0.39)
Indeno(1,2,3-cd)pyrene	ug/l	0.2	-	ND (0.32)	ND (0.33)	ND (0.32)	ND (0.32)	ND (0.34)	ND (0.33)
Isophorone	ug/l	40	-	ND (0.27)	ND (0.28)	ND (0.27)	ND (0.27)	ND (0.28)	ND (0.28)
2-Methylnaphthalene	ug/l	30	-	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)
2-Nitroaniline	ug/l	-	-	ND (0.27)	ND (0.28)	ND (0.27)	ND (0.27)	ND (0.28)	ND (0.28)
3-Nitroaniline	ug/l	-	-	ND (0.37)	ND (0.39)	ND (0.37)	ND (0.37)	ND (0.39)	ND (0.39)
4-Nitroaniline	ug/l	-	-	ND (0.42)	ND (0.44)	ND (0.42)	ND (0.42)	ND (0.44)	ND (0.44)
Naphthalene	ug/l	300	-	ND (0.22)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.23)
Nitrobenzene	ug/l	6	-	ND (0.62)	ND (0.64)	ND (0.61)	ND (0.61)	ND (0.65)	ND (0.64)
N-Nitroso-di-n-propylamine	ug/l	10	-	ND (0.46)	ND (0.48)	ND (0.46)	ND (0.46)	ND (0.49)	ND (0.48)
N-Nitrosodiphenylamine	ug/l	10	-	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)
Phenanthrene	ug/l	-	-	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)
Pyrene	ug/l	200	-	ND (0.21)	0.27 J	ND (0.21)	ND (0.21)	ND (0.22)	0.26 J
1,2,4,5-Tetrachlorobenzene	ug/l	-	-	ND (0.36)	ND (0.37)	ND (0.36)	ND (0.36)	ND (0.37)	ND (0.37)
MS Semi-volatile TIC									
Total TIC, Semi-Volatile	ug/l	-	-	0	12.8 J	0	0	6.2 J	0
Metals Analysis									
Aluminum	ug/l	200	-	851	<200	<200	<200	<200	<200
Antimony	ug/l	6	-	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
Arsenic	ug/l	3	-	<1.0	21.4	21.1	1.2	2.6	12.9
Barium	ug/l	6000	-	<200	471	366	<200	<200	234
Beryllium	ug/l	1	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	ug/l	4	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Calcium	ug/l	-	-	10900	57800	30400	72800	9120	31400
Chromium	ug/l	70	-	<10	<10	<10	<10	<10	<10
Cobalt	ug/l	100	-	<50	<50	<50	<50	<50	<50
Copper	ug/l	1300	-	<10	<10	<10	<10	<10	<10
Iron	ug/l	300	-	790	30900	31500	<100	8820	20200
Lead	ug/l	5	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Magnesium	ug/l	-	-	<5000	29500	22400	12900	<5000	7650
Manganese	ug/l	50	-	15	448	582	18.8	85.6	359
Mercury	ug/l	2	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	ug/l	100	-	<10	<10	<10	<10	<10	<10
Potassium	ug/l	-	-	<10000	14400	<10000	<10000	<10000	<10000
Selenium	ug/l	40	-	<10	<10	<10	<10	<10	<10
Silver	ug/l	40	-	<10	<10	<10	<10	<10	<10
Sodium	ug/l	50000	-	115000	192000	102000	<10000	74700	37300
Thallium	ug/l	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	ug/l	-	-	<50	<50	<50	<50	<50	<50
Zinc	ug/l	2000	-	25.8	<20	27.6	<20	<20	<20
General Chemistry									
Cyanide	mg/l	0.1	-	0.022	0.029	0.064	0.016	0.024	0.03
Nitrogen, Ammonia	mg/l	3	-	<0.20	2.7	1.7	<0.20	1	0.75
Phenols	mg/l	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Footnotes:

- ^a Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND. This compound in blank spike is outside in house QC limits bias high.
^b Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.
^c Associated CCV outside of control limits high, sample was ND.
^d This compound in blank spike is outside in house QC limits bias high.
^e Associated CCV outside of control limits low. Low-level verification was analyzed to demonstrate system suitability to detect affected analytes. Sample was ND.

Table 8
No.1 Landfarm July 2021 - Leachate
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	LEACHATE
Lab Sample ID:			JD27742-1
Date Sampled:			7/6/2021
Matrix:			Water
MS Volatiles (EPA 624.1)			
Benzene	ug/l	1	ND (0.34)
Bromodichloromethane	ug/l	1	ND (0.35)
Bromoform	ug/l	4	ND (0.60)
Bromomethane	ug/l	10	ND (0.87)
Carbon tetrachloride	ug/l	1	ND (0.55)
Chlorobenzene	ug/l	50	ND (0.33)
Chloroethane	ug/l	-	ND (0.54)
2-Chloroethyl vinyl ether	ug/l	-	ND (2.5)
Chloroform	ug/l	70	ND (0.50)
Chloromethane	ug/l	-	ND (0.78)
Dibromochloromethane	ug/l	1	ND (0.43)
1,2-Dichlorobenzene	ug/l	600	ND (0.30)
1,3-Dichlorobenzene	ug/l	600	ND (0.50)
1,4-Dichlorobenzene	ug/l	75	ND (0.50)
Dichlorodifluoromethane	ug/l	1000	ND (0.69)
1,1-Dichloroethane	ug/l	50	ND (0.42)
1,2-Dichloroethane	ug/l	2	ND (0.39)
1,1-Dichloroethene	ug/l	1	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	ND (0.46)
1,2-Dichloropropane	ug/l	1	ND (0.42)
cis-1,3-Dichloropropene	ug/l	-	ND (0.47)
trans-1,3-Dichloropropene	ug/l	-	ND (0.37)
Ethylbenzene	ug/l	700	ND (0.30)
Methyl Tert Butyl Ether	ug/l	70	ND (0.37)
Methylene chloride	ug/l	3	ND (0.41)
Tertiary Butyl Alcohol	ug/l	100	ND (2.6)
1,1,2,2-Tetrachloroethane	ug/l	1	ND (0.32)
Tetrachloroethene	ug/l	1	ND (0.41)
Toluene	ug/l	600	ND (0.36)
1,1,1-Trichloroethane	ug/l	30	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	ND (0.41)
Trichloroethene	ug/l	1	ND (0.43)
Trichlorofluoromethane	ug/l	2000	ND (0.33)
Vinyl chloride	ug/l	1	ND (0.79)
Xylenes (total)	ug/l	1000	ND (0.35)
MS Volatile TIC			
Total TIC, Volatile	ug/l	-	0
MS Semi-volatiles (EPA 625.1)			
2-Chlorophenol	ug/l	40	ND (0.78)
4-Chloro-3-methyl phenol	ug/l	-	ND (0.85)
2,4-Dichlorophenol	ug/l	20	ND (1.2)
2,4-Dimethylphenol	ug/l	100	ND (2.3)
2,4-Dinitrophenol	ug/l	40	ND (1.5)
4,6-Dinitro-o-cresol	ug/l	0.7	ND (1.2)
2-Nitrophenol	ug/l	-	ND (0.91)
4-Nitrophenol	ug/l	-	ND (1.1)
Pentachlorophenol	ug/l	0.3	ND (1.3)
Phenol	ug/l	2000	0.51 J
2,4,5-Trichlorophenol	ug/l	700	ND (1.3)
2,4,6-Trichlorophenol	ug/l	20	ND (0.88)
Acenaphthene	ug/l	400	ND (0.18)
Acenaphthylene	ug/l	-	ND (0.13)
Anthracene	ug/l	2000	ND (0.20)
Benidine	ug/l	20	ND (0.86)
Benzo(a)anthracene	ug/l	0.1	ND (0.19)
Benzo(a)pyrene	ug/l	0.1	ND (0.20)
Benzo(b)fluoranthene	ug/l	0.2	ND (0.20)
Benzo(g,h,i)perylene	ug/l	-	ND (0.32)
Benzo(k)fluoranthene	ug/l	0.5	ND (0.20)
4-Bromophenyl phenyl ether	ug/l	-	ND (0.38)
Butyl benzyl phthalate	ug/l	100	ND (0.44)
2-Chloronaphthalene	ug/l	600	ND (0.22)
4-Chloroaniline	ug/l	30	ND (0.32)
Chrysene	ug/l	5	ND (0.17)
bis(2-Chloroethoxy)methane	ug/l	-	ND (0.26)
bis(2-Chloroethyl)ether	ug/l	7	ND (0.24)
2,2'-Oxybis(1-chloropropane)	ug/l	300	ND (0.38)
4-Chlorophenyl phenyl ether	ug/l	-	ND (0.35)
1,2-Dichlorobenzene	ug/l	600	ND (0.16)
1,2-Diphenylhydrazine	ug/l	20	ND (0.18)
1,3-Dichlorobenzene	ug/l	600	ND (0.18)
1,4-Dichlorobenzene	ug/l	75	ND (0.16)
2,4-Dinitrotoluene	ug/l	-	ND (0.53)
2,6-Dinitrotoluene	ug/l	-	ND (0.45)
3,3'-Dichlorobenzidine	ug/l	30	ND (0.48)
Dibenzo(a,h)anthracene	ug/l	0.3	ND (0.32)
Di-n-butyl phthalate	ug/l	700	ND (0.47)
Di-n-octyl phthalate	ug/l	100	ND (0.22)
Diethyl phthalate	ug/l	6000	ND (0.25)
Dimethyl phthalate	ug/l	-	ND (0.21)
bis(2-Ethylhexyl)phthalate	ug/l	3	ND (1.6)
Fluoranthene	ug/l	300	ND (0.16)
Fluorene	ug/l	300	ND (0.16)
Hexachlorobenzene	ug/l	0.02	ND (0.31)
Hexachlorobutadiene	ug/l	1	ND (0.47)
Hexachlorocyclopentadiene	ug/l	40	ND (2.6)

Table 8
No.1 Landfarm July 2021 - Leachate
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	LEACHATE
Lab Sample ID:			JD27742-1
Date Sampled:			7/6/2021
Matrix:			Water
Hexachloroethane	ug/l	7	ND (0.37)
Indeno(1,2,3-cd)pyrene	ug/l	0.2	ND (0.32)
Isophorone	ug/l	40	ND (0.26)
Naphthalene	ug/l	300	ND (0.22)
Nitrobenzene	ug/l	6	ND (0.61)
n-Nitrosodimethylamine	ug/l	0.8	ND (0.78)
N-Nitroso-di-n-propylamine	ug/l	10	ND (0.46)
N-Nitrosodi-n-butylamine	ug/l	-	ND (0.57)
N-Nitrosodiethylamine	ug/l	-	ND (0.23)
N-Nitrosodiphenylamine	ug/l	10	ND (0.21)
N-Nitrosopyrrolidine	ug/l	-	ND (0.70)
Pentachlorobenzene	ug/l	-	ND (0.23)
Phenanthrene	ug/l	-	ND (0.17)
Pyrene	ug/l	200	ND (0.21)
1,2,4,5-Tetrachlorobenzene	ug/l	-	ND (0.35)
1,2,4-Trichlorobenzene	ug/l	9	ND (0.24)
2,3,7,8-TCDD	ug/l	0.00001	ND (4.8)
MS Semi-volatile TIC			
Total TIC, Semi-Volatile	ug/l	-	0
GC/LC Semi-volatiles (EPA 608.3)			
Aldrin	ug/l	0.04	0.0077 J *
alpha-BHC	ug/l	0.02	ND (0.0093)
beta-BHC	ug/l	0.04	ND (0.010)
delta-BHC	ug/l	-	ND (0.0087)
gamma-BHC (Lindane)	ug/l	0.03	ND (0.0074)
Chlordane	ug/l	0.5	ND (0.36)
Dieldrin	ug/l	0.03	ND (0.0050)
4,4'-DDD	ug/l	0.1	ND (0.0087)
4,4'-DDE	ug/l	0.1	ND (0.0050)
4,4'-DDT	ug/l	0.1	ND (0.0093)
Endrin	ug/l	2	ND (0.0073)
Endosulfan sulfate	ug/l	40	ND (0.0075)
Endrin aldehyde	ug/l	-	ND (0.010)
Endosulfan-I	ug/l	40	0.010 J *
Endosulfan-II	ug/l	40	ND (0.0070)
Heptachlor	ug/l	0.05	ND (0.0069)
Heptachlor epoxide	ug/l	0.2	ND (0.0052)
Methoxychlor	ug/l	40	ND (0.0093)
Toxaphene	ug/l	2	ND (0.12)
Aroclor 1016	ug/l	0.5	ND (0.21)
Aroclor 1221	ug/l	0.5	ND (0.62)
Aroclor 1232	ug/l	0.5	ND (0.18)
Aroclor 1242	ug/l	0.5	ND (0.24)
Aroclor 1248	ug/l	0.5	ND (0.12)
Aroclor 1254	ug/l	0.5	ND (0.17)
Aroclor 1260	ug/l	0.5	ND (0.17)
GC/LC Semi-volatiles (SW846 8081B)			
Mirex	ug/l	0.1	ND (0.0036)
GC/LC Semi-volatiles (SW846 8141B)			
Chlorpyrifos	ug/l	20	ND (0.66)
Demeton	ug/l	1	ND (0.91)
Ethyl Parathion	ug/l	4	ND (0.64)
Malathion	ug/l	100	ND (0.49)
Methyl Azinphos (Guthion)	ug/l	-	ND (0.44) *
Metals Analysis			
Antimony	ug/l	6	<6.0
Arsenic	ug/l	3	6.3
Beryllium	ug/l	1	<1.0
Cadmium	ug/l	4	<3.0
Chromium	ug/l	70	<10
Copper	ug/l	1300	10.3
Lead	ug/l	5	<3.0
Mercury	ug/l	2	<0.20
Nickel	ug/l	100	40
Selenium	ug/l	40	<10
Silver	ug/l	40	<10
Thallium	ug/l	2	<0.50
Zinc	ug/l	2000	34.3
General Chemistry			
Chloride	mg/l	250	8.9
Cyanide	mg/l	0.1	<0.010
Nitrogen, Ammonia	mg/l	3	0.54
Phenols	mg/l	-	<0.20

Footnotes:

* More than 40 % RPD for detected concentrations between the two GC columns.

° Associated CCV outside of control limits high, sample was ND.

Table 8
No. 1 Landfarm October 2021 - Leachate
Hess Corporation - Former Port Reading Complex
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	LEACHATE
Lab Sample ID:			JD32779-1
Date Sampled:			10/4/2021
Matrix:			Water
MS Volatiles (EPA 624.1)			
Benzene	ug/l	1	ND (0.34)
Bromodichloromethane	ug/l	1	ND (0.35)
Bromoform	ug/l	4	ND (0.60) ^a
Bromomethane	ug/l	10	ND (0.87)
Carbon tetrachloride	ug/l	1	ND (0.55)
Chlorobenzene	ug/l	50	ND (0.33)
Chloroethane	ug/l	-	ND (0.54)
2-Chloroethyl vinyl ether	ug/l	-	ND (2.5)
Chloroform	ug/l	70	ND (0.50)
Chloromethane	ug/l	-	ND (0.78)
Dibromochloromethane	ug/l	1	ND (0.43)
1,2-Dichlorobenzene	ug/l	600	ND (0.30)
1,3-Dichlorobenzene	ug/l	600	ND (0.50)
1,4-Dichlorobenzene	ug/l	75	ND (0.50)
Dichlorodifluoromethane	ug/l	1000	ND (0.69)
1,1-Dichloroethane	ug/l	50	ND (0.42)
1,2-Dichloroethane	ug/l	2	ND (0.39)
1,1-Dichloroethene	ug/l	1	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	ND (0.46)
1,2-Dichloropropane	ug/l	1	ND (0.42)
cis-1,3-Dichloropropene	ug/l	-	ND (0.47)
trans-1,3-Dichloropropene	ug/l	-	ND (0.37)
Ethylbenzene	ug/l	700	ND (0.30)
Methyl Tert Butyl Ether	ug/l	70	0.41 J
Methylene chloride	ug/l	3	ND (0.41)
Tertiary Butyl Alcohol	ug/l	100	ND (2.6)
1,1,2,2-Tetrachloroethane	ug/l	1	ND (0.32)
Tetrachloroethene	ug/l	1	ND (0.41)
Toluene	ug/l	600	ND (0.36)
1,1,1-Trichloroethane	ug/l	30	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	ND (0.41)
Trichloroethene	ug/l	1	ND (0.43)
Trichlorofluoromethane	ug/l	2000	ND (0.33)
Vinyl chloride	ug/l	1	ND (0.79)
Xylenes (total)	ug/l	1000	ND (0.35)
MS Volatile TIC			
Total TIC, Volatile	ug/l	-	0
MS Semi-volatiles (EPA 625.1)			
2-Chlorophenol	ug/l	40	ND (0.83)
4-Chloro-3-methyl phenol	ug/l	-	ND (0.90)
2,4-Dichlorophenol	ug/l	20	ND (1.3)
2,4-Dimethylphenol	ug/l	100	ND (2.5)
2,4-Dinitrophenol	ug/l	40	ND (1.6)
4,6-Dinitro-o-cresol	ug/l	0.7	ND (1.3)
2-Nitrophenol	ug/l	-	ND (0.97)
4-Nitrophenol	ug/l	-	ND (1.2)
Pentachlorophenol	ug/l	0.3	ND (1.4)
Phenol	ug/l	2000	ND (0.40)
2,4,5-Trichlorophenol	ug/l	700	ND (1.3)
2,4,6-Trichlorophenol	ug/l	20	ND (0.93)
Acenaphthene	ug/l	400	ND (0.19)
Acenaphthylene	ug/l	-	ND (0.14)
Anthracene	ug/l	2000	ND (0.21)
Benidine	ug/l	20	ND (0.91) ^a
Benzo(a)anthracene	ug/l	0.1	ND (0.21)
Benzo(a)pyrene	ug/l	0.1	ND (0.22)
Benzo(b)fluoranthene	ug/l	0.2	ND (0.21)
Benzo(g,h,i)perylene	ug/l	-	ND (0.34)
Benzo(k)fluoranthene	ug/l	0.5	ND (0.21)
4-Bromophenyl phenyl ether	ug/l	-	ND (0.41)
Butyl benzyl phthalate	ug/l	100	ND (0.46)
2-Chloronaphthalene	ug/l	600	ND (0.24)
4-Chloroaniline	ug/l	30	ND (0.34)
Chrysene	ug/l	5	ND (0.18)
bis(2-Chloroethoxy)methane	ug/l	-	ND (0.28)
bis(2-Chloroethyl)ether	ug/l	7	ND (0.25)
2,2'-Oxybis(1-chloropropane)	ug/l	300	ND (0.41)
4-Chlorophenyl phenyl ether	ug/l	-	ND (0.37)
1,2-Dichlorobenzene	ug/l	600	ND (0.17)
1,2-Diphenylhydrazine	ug/l	20	ND (0.19)
1,3-Dichlorobenzene	ug/l	600	ND (0.19)
1,4-Dichlorobenzene	ug/l	75	ND (0.17)
2,4-Dinitrotoluene	ug/l	-	ND (0.56)
2,6-Dinitrotoluene	ug/l	-	ND (0.48)
3,3'-Dichlorobenzidine	ug/l	30	ND (0.51)
Dibenzo(a,h)anthracene	ug/l	0.3	ND (0.33)
Di-n-butyl phthalate	ug/l	700	ND (0.50)
Di-n-octyl phthalate	ug/l	100	ND (0.24)
Diethyl phthalate	ug/l	6000	ND (0.26)
Dimethyl phthalate	ug/l	-	ND (0.22)
bis(2-Ethylhexyl)phthalate	ug/l	3	ND (1.7)
Fluoranthene	ug/l	300	ND (0.17)
Fluorene	ug/l	300	ND (0.17)
Hexachlorobenzene	ug/l	0.02	ND (0.33)
Hexachlorobutadiene	ug/l	1	ND (0.50)
Hexachlorocyclopentadiene	ug/l	40	ND (2.8) ^a
Hexachloroethane	ug/l	7	ND (0.39)
Indeno(1,2,3-cd)pyrene	ug/l	0.2	ND (0.34)
Isophorone	ug/l	40	ND (0.28)

Table 8
No. 1 Landfarm October 2021 - Leachate
Hess Corporation - Former Port Reading Complex
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Groundwater Criteria	LEACHATE
Lab Sample ID:			JD32779-1
Date Sampled:			10/4/2021
Matrix:			Water
Naphthalene	ug/l	300	ND (0.23)
Nitrobenzene	ug/l	6	ND (0.65)
n-Nitrosodimethylamine	ug/l	0.8	ND (0.82)
N-Nitroso-di-n-propylamine	ug/l	10	ND (0.49)
N-Nitrosodi-n-butylamine	ug/l	-	ND (0.61)
N-Nitrosodiethylamine	ug/l	-	ND (0.24)
N-Nitrosodiphenylamine	ug/l	10	ND (0.22)
N-Nitrosopyrrolidine	ug/l	-	ND (0.74)
Pentachlorobenzene	ug/l	-	ND (0.25)
Phenanthrene	ug/l	-	ND (0.18)
Pyrene	ug/l	200	ND (0.22)
1,2,4,5-Tetrachlorobenzene	ug/l	-	ND (0.37)
1,2,4-Trichlorobenzene	ug/l	9	ND (0.26)
2,3,7,8-TCDD	ug/l	0.00001	ND (5.1)
MS Semi-volatile TIC			
Total TIC, Semi-Volatile	ug/l	-	13.3 J
GC/LC Semi-volatiles (EPA 608.3)			
Aldrin	ug/l	0.04	ND (0.0037)
alpha-BHC	ug/l	0.02	ND (0.0059)
beta-BHC	ug/l	0.04	ND (0.0066)
delta-BHC	ug/l	-	ND (0.0056)
gamma-BHC (Lindane)	ug/l	0.03	ND (0.0047)
Chlordane	ug/l	0.5	ND (0.23)
Dieldrin	ug/l	0.03	ND (0.0032)
4,4'-DDD	ug/l	0.1	0.0088 J
4,4'-DDE	ug/l	0.1	0.0038 J ^a
4,4'-DDT	ug/l	0.1	0.0099 J ^a
Endrin	ug/l	2	ND (0.0047)
Endosulfan sulfate	ug/l	40	ND (0.0048)
Endrin aldehyde	ug/l	-	ND (0.0064)
Endosulfan-I	ug/l	40	0.0066 J
Endosulfan-II	ug/l	40	ND (0.0044)
Heptachlor	ug/l	0.05	ND (0.0044)
Heptachlor epoxide	ug/l	0.2	ND (0.0033)
Methoxychlor	ug/l	40	ND (0.0060)
Toxaphene	ug/l	2	ND (0.079)
Aroclor 1016	ug/l	0.5	ND (0.13)
Aroclor 1221	ug/l	0.5	ND (0.39)
Aroclor 1232	ug/l	0.5	ND (0.11)
Aroclor 1242	ug/l	0.5	ND (0.15)
Aroclor 1248	ug/l	0.5	ND (0.076)
Aroclor 1254	ug/l	0.5	ND (0.11)
Aroclor 1260	ug/l	0.5	ND (0.11)
GC/LC Semi-volatiles (SW846 8081B)			
Mirex	ug/l	0.1	ND (0.0023)
GC/LC Semi-volatiles (SW846 8141B)			
Chlorpyrifos	ug/l	20	ND (0.66)
Demeton	ug/l	1	ND (0.91)
Ethyl Parathion	ug/l	4	ND (0.64)
Malathion	ug/l	100	ND (0.49)
Methyl Azinphos (Guthion)	ug/l	-	ND (0.44) ^a
Metals Analysis			
Antimony	ug/l	6	<6.0
Arsenic	ug/l	3	11.3
Beryllium	ug/l	1	<1.0
Cadmium	ug/l	4	<3.0
Chromium	ug/l	70	<10
Copper	ug/l	1300	12.6
Lead	ug/l	5	<3.0
Mercury	ug/l	2	<0.20
Nickel	ug/l	100	54.4
Selenium	ug/l	40	<10
Silver	ug/l	40	<10
Thallium	ug/l	2	<0.50
Zinc	ug/l	2000	57.3
General Chemistry			
Chloride	mg/l	250	12.5
Cyanide	mg/l	0.1	0.024
Nitrogen, Ammonia	mg/l	3	2.9
Phenols	mg/l	-	<0.20

Footnotes:

^a This compound in blank spike duplicate is outside in house QC limits bias high.

^b This compound in BS,BSD is outside in house QC limits bias low.

^c Associated CCV outside of control limits high, sample was ND.

^d More than 40 % RPD for detected concentrations between the two GC columns.

Table 9
No. 1 Landfarm September 2021 - Soil
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Client Sample ID:		NJ Soil Remediation Standards Ingestion Dermal Exp. Pathway Residential	NJ Soil Remediation Standards Ingestion Dermal Exp. Pathway Non-Residential	NJ Soil Remediation Standards Inhalation! Exp. Pathway Residential	NJ Soil Remediation Standards Inhalation! Exp. Pathway Non-Residential	ZOI(0.0-1.5')	TZ(1.5-3.0')	UZ(3.0-4.0')
Lab Sample ID:						JD31718-1	JD31718-2	JD31718-3
Date Sampled:						9/16/2021	9/16/2021	9/16/2021
Matrix:						Soil	Soil	Soil
MS Volatiles (SW846 8260D)								
Benzene	mg/kg	3	16	2.2	11	ND (0.00086)	ND (0.00061)	0.00077
2-Butanone (MEK)	mg/kg	47000	780000	-	-	ND (0.0046)	ND (0.0032)	0.0107 J
Carbon disulfide	mg/kg	-	-	-	-	ND (0.0010)	ND (0.00072)	0.00079 J
Chlorobenzene	mg/kg	510	8400	-	-	ND (0.00087)	ND (0.00061)	ND (0.00057)
Chloroform	mg/kg	780	13000	590	-	ND (0.00098)	ND (0.00069)	ND (0.00065)
1,2-Dibromoethane	mg/kg	0.35	1.8	0.085	0.41	ND (0.00080)	ND (0.00056)	ND (0.00052)
1,2-Dichloroethane	mg/kg	5.8	30	71	320	ND (0.00089)	ND (0.00063)	ND (0.00058)
1,4-Dioxane	mg/kg	7	36	45	210	ND (0.0069)	ND (0.0049)	ND (0.0045)
Ethylbenzene	mg/kg	7800	130000	10	48	ND (0.00086)	ND (0.00061)	0.00093 J
Methyl Tert Butyl Ether	mg/kg	780	13000	140	650	ND (0.00089)	ND (0.00063)	0.0056
Styrene	mg/kg	16000	260000	-	-	ND (0.00076)	ND (0.00054)	ND (0.00050)
Tert Butyl Alcohol	mg/kg	1400	23000	-	-	ND (0.00086)	ND (0.0061)	ND (0.0057)
Toluene	mg/kg	6300	100000	-	-	ND (0.00099)	ND (0.00070)	0.0011 J
Vinyl chloride	mg/kg	0.97	5	1.4	6.4	ND (0.00091)	ND (0.00064)	ND (0.00060)
Xylene (total)	mg/kg	12000	190000	-	-	ND (0.00087)	ND (0.00061)	0.0031
MS Semi-volatiles (SW846 8270E)								
Benzenethiol	mg/kg	-	-	-	-	0.706 J ^a	0.679 J ^a	0.267 J ^b
2,4-Dimethylphenol	mg/kg	1300	18000	-	-	ND (0.17)	ND (0.14)	ND (0.16)
2,4-Dinitrophenol	mg/kg	130	1800	-	-	ND (0.36)	ND (0.30)	ND (0.34)
2-Methylphenol	mg/kg	320	4600	-	-	ND (0.061)	ND (0.051)	ND (0.059)
3&4-Methylphenol	mg/kg	-	-	-	-	ND (0.079)	ND (0.066)	ND (0.075)
4-Nitrophenol	mg/kg	-	-	-	-	ND (0.26)	ND (0.21)	ND (0.24)
Phenol	mg/kg	19000	270000	39000	-	ND (0.050)	ND (0.042)	ND (0.048)
Anthracene	mg/kg	18000	250000	-	-	0.42	0.528	0.422
Benzo(a)anthracene	mg/kg	5.1	23	78000	370000	0.233	0.397	0.528
Benzo(a)pyrene	mg/kg	0.51	2.3	7800	16000	0.411	1.01	0.792
Benzo(b)fluoranthene	mg/kg	5.1	23	78000	370000	0.258	0.67	0.52
Benzo(k)fluoranthene	mg/kg	51	230	780000	-	ND (0.045)	ND (0.037)	0.139
Butyl benzyl phthalate	mg/kg	290	1300	-	-	ND (0.023) ^c	ND (0.019) ^c	ND (0.022) ^c
Chrysene	mg/kg	510	2300	-	-	0.433	1.83	1.25
1,2-Dichlorobenzene	mg/kg	6700	110000	-	-	ND (0.028)	ND (0.023)	ND (0.026)
1,3-Dichlorobenzene	mg/kg	6700	110000	-	-	ND (0.020)	ND (0.017)	ND (0.020)
1,4-Dichlorobenzene	mg/kg	780	13000	-	-	ND (0.023)	ND (0.019)	ND (0.022)
7,12-Dimethylbenz(a)anthracene	mg/kg	-	-	-	-	ND (0.025)	ND (0.020)	ND (0.023)
Dibenz(a,h)acridine	mg/kg	-	-	-	-	ND (0.48)	ND (0.40)	ND (0.46)
Dibenz(a,h)anthracene	mg/kg	0.51	2.3	7800	37000	0.181	0.428	0.296
Di-n-butyl phthalate	mg/kg	6300	91000	-	-	ND (0.016)	ND (0.013)	ND (0.015)
Di-n-octyl phthalate	mg/kg	630	9100	-	-	ND (0.024) ^c	ND (0.020) ^c	ND (0.023) ^c
Diethyl phthalate	mg/kg	51000	730000	-	-	ND (0.020)	ND (0.017)	ND (0.020)
Dimethyl phthalate	mg/kg	-	-	-	-	ND (0.017)	ND (0.014)	ND (0.016)
bis(2-Ethylhexyl)phthalate	mg/kg	39	180	-	-	ND (0.022) ^c	0.394 ^d	0.353 ^d
Fluoranthene	mg/kg	2400	33000	-	-	0.123	0.216	0.417
Indene	mg/kg	-	-	-	-	0.221 J	0.335 J	0.174 J
1-Methylnaphthalene	mg/kg	-	-	-	-	0.515	0.507	0.556
6-Methyl Chrysene	mg/kg	-	-	-	-	0.330 J	1.08	0.715
Naphthalene	mg/kg	2500	34000	5.7	27	0.295	0.327	0.247
Phenanthrene	mg/kg	-	-	-	-	0.633	0.809	1.11
Pyrene	mg/kg	1800	25000	-	-	0.474	1.08	1.57
Pyridine	mg/kg	-	-	-	-	ND (0.033)	ND (0.027)	ND (0.031)
Quinoline	mg/kg	-	-	-	-	ND (0.016)	ND (0.014)	ND (0.016)
Metals Analysis								
Antimony	mg/kg	31	520	-	-	<3.1	<2.6	<1.9
Arsenic	mg/kg	19	19	1100	5200	46.5	33.6 ^e	23.0 ^e
Barium	mg/kg	16000	260000	870000	-	213	144	97.1
Beryllium	mg/kg	160	2600	2000	9300	0.74	1.8 ^e	0.54 ^e
Cadmium	mg/kg	71	1100	2600	12000	0.94	1.3 ^e	<0.93 ^e
Chromium	mg/kg	-	-	-	-	92.3	81.2	62.6
Cobalt	mg/kg	23	390	520	2500	14.8	13.1	8.7
Lead	mg/kg	400	800	-	-	155	162 ^e	97.1 ^e
Mercury	mg/kg	23	390	520000	-	2	0.5	0.77
Nickel	mg/kg	1600	26000	20000	93000	1510	655	370
Selenium	mg/kg	390	6500	-	-	14.5	7.8 ^e	4.2 ^e
Vanadium	mg/kg	390	6500	170000	800000	102	66.6	45.5
General Chemistry								
HEM Oil and Grease	mg/kg	-	-	-	-	<740	<630	<700
Nitrogen, Nitrate + Nitrite	mg/kg	-	-	-	-	<29	26.8	<27
Nitrogen, Total	mg/kg	-	-	-	-	9460 ^f	5330 ^f	2720 ^f
Nitrogen, Total Kjeldahl	mg/kg	-	-	-	-	9430	5300	2720
Solids, Percent	%	-	-	-	-	67.8	79.6	71.8
Specific Conductivity	umhos/cm	-	-	-	-	110	331	184

Footnotes:

^a This compound in BS is outside of advisory limits.

^b This compound in BS is outside of advisory limits.

^c Associated CCV outside of control limits high, sample was ND.

^d Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.

^e Elevated detection limit due to dilution required for high interfering element.

^f Calculated as: (Nitrogen, Total Kjeldahl) + (Nitrogen, Nitrate + Nitrite)

APPENDIX A

Low Flow Pump Placement Summary Table
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, New Jersey

Well ID	AOC	TOC Elevation (ft)	Ground Elevation (ft)	Survey Date	Diameter (in)	Screen Interval (TOC, ft)	Stick-Up Height (TOC - Ground Elev., ft)	Depth of Well (bgs, ft)	Depth of Well (TOC, ft)	July Pump Depth (below TOC)	July DTW (before pump placement) from TOC	Oct Pump Depth (below TOC)	Oct DTW (before pump placement) from TOC
BG-2	3	6.96	7.16	12/21/2017	4	4-9	Flush Mount	9	9.00	5.5	1.67	5	2.59
BG-3	3	10.31	7.7	12/9/2014	4	7-12	2.61	10	12.00	8.5	2.71	9	4.62
L1-1	3	9.91	10.14	12/21/2017	4	4.25-14.25	Flush Mount	14.25	14.25	7	3.39	7	4.83
L1-2	3	9.05	7.63	12/9/2014	4	5.5-15.5	1.42	14	15.50	8	5.62	8	6.17
L1-3	3	9.33	8.31	12/9/2014	4	6.4-11.4	1.02	10.4	11.40	8	5.97	8.5	6.52
L1-4	3	10.85	9.07	12/9/2014	4	6-11	1.78	9	11.00	9	6.85	9.5	7.96
LN-1	1	10.37	8.51	5/6/2019	4	8-14.85	1.86	14.85	14.85	10	4.04	10	5.23
LN-2	1	9.65	8.88	5/6/2019	4	7.75-13.75	0.77	13	13.75	8.5	5.2	8.5	5.94
LN-3	1	8.92	8.6	5/6/2019	4	5.75-11.75	0.32	11.25	11.75	7.5	4.85	8	5.36
LN-4	1	10.69	9.13	5/6/2019	4	5.5-15.5	1.56	14	15.50	9.6	6.94	9.5	7.39
LN-5	1	10.57	8.4	5/6/2019	4	7-17	2.17	15	17.00	7.5	6.12	9.5	6.81
LN-6	1	12.15	8.93	5/6/2019	4	8-18	3.22	15	18.00	10.5	7.97	10.5	8.44
LN-7	1	13.30	10.12	5/6/2019	4	8-18	3.18	15	18.00	10.5	8.23	10.5	9.07
LS-1R	2	12.25	10.42	12/9/2014	4	6-16	1.75	14	16.00	7	2.69	9	3.43
LS-2	2	9.75	8.12	12/9/2014	4	7.25-12.25	1.75	10.25	12.25	8	1.93	8	2.84
LS-3	2	8.40	8.01	12/9/2014	4	6.5-12.5	0.39	12	12.50	7.5	0.1	7.5	1.04
LS-4	2	9.28	7.70	12/9/2014	4	7-14	1.58	12	14	8	1.32	9	1.83

Earth Systems

NJDEP Certification No. 13040

Equipment: 4-52 Date: 7/14/21 Job #/Name: Port Raritan - North 80° down Weather: 80° down Personnel: ALC
Serial Number: 048913

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
7:47	22.07	4.14	3/31/23	4.00	2.87	10.00	1.00
							N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/- 0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
12:10	21.00	4.10	4.00	10.00	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/- 1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:50	0.002	0.002	1.38	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90 - 110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:51	0.0	0.0	99.1	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
13:1	0	0	92.9	N	0.1

Earth Systems

NIDEP Certification No. 13040

Date: 7/13/11 Job #/Name: Port-Royal No. 1 Weather: 80°D 72° Personnel: AE
 Equipment: C-21 Serial Number: 49468

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
<u>7:00</u>	<u>20.9</u>	<u>7.01</u>	<u>3/31/10</u>	<u>10.75</u>	<u>3/31/10</u>	<u>7.00</u>	<u>✓</u>

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)

Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/- 0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
<u>10:00</u>	<u>25.02</u>	<u>7.00</u>	<u>7/10</u>	<u>10.64</u>	<u>7/10</u>	<u>7.00</u>	<u>✓</u>

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/- 1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
<u>1:10</u>	<u>0.00</u>	<u>0.000</u>	<u>1.64</u>	<u>1.71</u>	<u>1.71</u>	<u>✓</u>

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90 - 110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
<u>7:15</u>	<u>0.0</u>	<u>0.0</u>	<u>98.9</u>	<u>100</u>	<u>100</u>	<u>✓</u>

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
<u>7:15</u>	<u>0</u>	<u>0</u>	<u>100</u>	<u>✓</u>	<u>01</u>

Earth Systems

NIDEP Certification No. 13040

Date: 7/13/21 Job #/Name: NO.1 LF Weather: Cloudy 70° Personnel: RC
 Equipment: U-52 Serial Number: 44182/44013

pH							
Time	Temperature	Zero Pt	Lot / Exp Date	Span Pt	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate)	Lot / Exp Date
		(pH 4)		(pH 10)			
		Initial Reading	Adjusted	Initial Reading	Adjusted	(pH 7 - acceptable range 6.9-7.1)	Recalibrate (Y/N)*
825		4.12	16C758 3/31/23 4.00	10.02	16C436 3/31/23 10.00	7.01	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt *	Lot / Exp Date	Span Pt *	Lot / Exp Date	Check (must be within +/- 0.2 units or need to recalibrate)	Lot / Exp Date
		(pH 4)		(pH 10)			
						(pH 7 - acceptable range 6.8-7.2)	

Conductivity						
Time	Zero	Lot / Exp Date	Span	Lot / Exp Date	Check (must be within +/- 1% or need to recalibrate)	Lot / Exp Date
	(Ambient Air)		(1.413 ms/cm)			
	Initial Reading	Adjusted	Initial Reading	Adjusted	(use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Recalibrate (Y/N)
836	0.000	0.000	1.24	1.91	1.91	N

Turbidity						
Time	Zero	Lot / Exp Date	Span	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate	Lot / Exp Date
			(100 NTU)			
	Initial Reading	Adjusted	Initial Reading	Adjusted	(use 100 NTU - acceptable range 90-110 NTU)	Recalibrate (Y/N)
840	0.0	0.0	110	100	101	N

Dissolved Oxygen					
Time	Zero	Lot / Exp Date	Air Span	Lot / Exp Date	Check - reading must be 0.3mg/L or less
	(0% Solution)		(100%)		
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
846	0.000	7/28/21 2019670750 0.000	91.6	N	

Earth Systems

NJDEP Certification No. 13040

Equipment: 4-52 Date: 7/14/21 Job #/Name: Port Reading - North 80° down Weather: 80° down Personnel: AL
Serial Number: 048913

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
7:47	22.87	5.14	3/31/23	1.87	3/31/23	7.00	3/31/23
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/- 0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
10:50	21.00	4.10	4.00	1.00	12.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/- 1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:50	0.00	0.00	1.50	1.71	1.91	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90 - 110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:51	0.0	0.0	9.6	100	10.6	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
7:51	0	0	9.79	N	0.1

Earth Systems

NJDEP Certification No. 13040

Date: 7/14/21 Job #/Name: N. LF Weather: Cloud 70° Personnel: RC

Equipment: U-52

Serial Number: 44182 / 044013

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 16C758 3/31/23	Span Pt (pH 10)	Lot / Exp Date 16C436 3/31/23	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date 16C1089 3/31/23
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
745	23.64	4.63	9.0	10.10	10.00	7.00	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)

Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1250						7.04	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
800	0.001	0.000	1.23	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90- 110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
105	0.0	0.0	1.7	100		

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date 7128/21 2019080750	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
710	0.000	1.000	100.1	N	

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Former Hess - Port Reading</u>		CONSULTING FIRM: <u>EARTH SYSTEMS</u>	
DATE: <u>7/15/21</u>		FIELD PERSONNEL: <u>KI</u>	
WEATHER: <u>Sunny, 85</u>		CERTIFICATION #: <u>13040</u>	

MONITOR WELL #: <u>LS - 1R</u>	WELL DEPTH: <u>16'</u>	SCREENED/OPEN INTERVAL: <u>6 - 16'</u>
WELL PERMIT #: <u>2600025324</u>	WELL DIAMETER: <u>4"</u> Inches	

PID/FID READINGS (ppm):	BACKGROUND: <u>0.1</u>	PUMP INTAKE DEPTH: <u>7</u> ft below TOC
	BENEATH OUTER CAP: <u>0.7</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>2.69</u> ft below TOC
	BENEATH INNER CAP: <u>5.6</u>	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1035	✓		7.31	NA	.428	NA	-80	NA	1.51	NA	6.5	NA	31.65	NA	275	3.05
1040	✓		7.23	50	.392	-8.410	-87	7	1.41	6.610	7.1	9.2310	31.17	1.5010	275	3.14
1045	✓		7.21	-0.03	.363	-7.39	-97	10	0.64	-54.6	8.2	15.49	30.36	2.59	275	3.40
1050	✓		7.21	0.0	.356	-1.92810	-100	3	0.46	-2510	9.4	14.63	30.32	-132	275	3.42
1055	✓		7.21	0.0	.352	-1.12	-104	4	.51	6.25	8.6	-8.5	30.62	.989	275	3.43
1100	✓		7.21	0.0	.350	-0.56	-105	1	.47	-7.84	7.8	-9.3	30.78	.52	275	3.45
1105	✓		7.20	-0.01	.347	-0.85	-105	0	.43	-8.511	7.9	1.28	30.94	.52	275	3.45
1110	✓		7.20	-0.01	.347	-	-105	-	.43	-	7.8	1.28	30.90	.52	215	3.45

COMMENTS: Sample @ 1140

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

[illegible]

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

Earth Systems

Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 2/15/21 FIELD PERSONNEL: AE
 WEATHER: 8:00 AM CERTIFICATION #: 13040

MONITOR WELL #: LS-3 WELL DEPTH: 12.5' SCREENED/OPEN INTERVAL: 6.5 - 12.5'
 WELL PERMIT #: 2600007592 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 7.5 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 0.1 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
9:55	X		6.65	NA	9.87	NA	15	NA	0.10	NA	3.7	NA	21.62	NA	378	0.18
10:00	X		6.65	0.00	9.91	0.4%	11	4	0.10	0%	2.9	21%	21.75	0.7%		
10:05	X		6.65	0.00	9.90	1%	9	2	0.10	0%	3.7	27%	21.87	1%		
10:10	X		6.66	0.01	9.89	1%	7	2	0.10	0%	3.4	8%	21.64	1%		
10:15	X		6.66	0.00	9.82	1%	6	1	0.10	0%	3.3	1%	22.23	1%		
10:20	X		6.67	0.01	9.70	1%	5	1	0.10	0%	3.3	0%	22.37	1%		
10:25	X		6.67	0.00	9.70	1%	3	2	0.10	0%	3.0	9%	22.41	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET OF

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 7/25/21 FIELD PERSONNEL: KY
 WEATHER: Sunny, 85 CERTIFICATION #: 13040

MONITOR WELL #: LS-4 WELL DEPTH: 14' SCREENED/OPEN INTERVAL: 7-14'
 WELL PERMIT #: 2600007595 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 3.6 PUMP INTAKE DEPTH: 8 ft below TOC
 BENEATH OUTER CAP: 6.4 DEPTH TO WATER BEFORE PUMP INSTALLATION: 1.32 ft below TOC
 BENEATH INNER CAP: 60.6

TIME	PURGING	SAMPLING	pH ¹⁰ (pH units) (SM 4500H+B)		SPECIFIC ³⁰ CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX ¹⁰ POTENTIAL (mv)		DISSOLVED ¹⁰⁰ OXYGEN (mg/l) (SM 4500OG)		TURBIDITY ¹⁰⁰ (NTU) (EPA 180.1)		TEMPERATURE ³⁰ (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
920	✓		7.34	NA	2.29	NA	-99	NA	3.09	NA	5.5	NA	23.61	NA	300	1.73
925	✓		7.37	.03	2.29	0	-106	7	2.55	-17.47	6.8	23.67	24.01	1.69	300	1.82
930	✓		7.38	.01	2.31	-87	-111	5	2.05	-19.60	8.5	25.1	24.23	1.1	300	1.83
935	✓		7.40	.02	2.33	-86	-115	4	1.54	-24.88	10.2	20.1	24.44	.78	300	1.85
940	✓		7.40	0.0	2.31	-86	-116	1	1.52	-16.29	9.4	-7.84	24.52	.52	300	1.86
945	✓		7.41	0.1	2.30	-93	-117	1	1.41	-7.80	10.8	6.38	24.67	-.61	300	1.87
950	✓		7.40	-0.1	2.29	-.43	-117	0	1.29	-8.5	10.8	8.1	24.90	.93	300	1.87
955	✓		7.40	-0.1	2.29	-	-117	-	1.29	-	10.8	-	24.99	1.0	300	1.87

COMMENTS:

Sample ② 955

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	7/14/21	FIELD PERSONNEL:	RC
WEATHER:	Clouds 73°	CERTIFICATION #:	13040

MONITOR WELL #:	LN - 1	WELL DEPTH:	14.85'
WELL PERMIT #:	2600008130	WELL DIAMETER:	4" Inches
		SCREENED/OPEN INTERVAL:	8 - 14.85'

PID/FID READINGS (ppm):	BACKGROUND:	PUMP INTAKE DEPTH:	10.0 ft below TOC
	BENEATH OUTER CAP:	DEPTH TO WATER BEFORE PUMP INSTALLATION :	
	BENEATH INNER CAP:	4.04 ft below TOC	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
915	✓		6.42	NA	1.54	NA	-11	NA	3.73	NA	60.1	NA	22.60	NA	280	4.45
920	✓		6.37	0.05	1.52	1%	-11	-	2.61	30%	71.2	18%	22.61	1%	280	4.45
925	✓		6.36	0.01	1.51	1%	-10	1	1.46	44%	84.3	18%	22.63	1%	280	4.45
930	✓		6.37	0.01	1.48	1%	-12	2	0.75	40%	80.9	4%	22.96	1%	280	4.45
935	✓		6.38	0.01	1.44	2%	-13	1	0.75	-	76.2	5%	22.87	1%	280	4.45
940	✓		6.39	0.01	1.40	2%	-15	2	0.71	5%	70.9	6%	22.96	1%	280	4.45
945	✓		6.40	0.01	1.37	2%	-16	1	0.70	1%	68.9	2%	22.70	1%	280	4.45
950		✓	6.42	0.02	1.36	1%	-19	3	0.66	5%	67.1	2%	23.01	1%	280	4.45

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	7/14/21	FIELD PERSONNEL:	RC
WEATHER:	SUN 80°	CERTIFICATION #:	13040

MONITOR WELL #:	LN - 2	WELL DEPTH:	13.75'	SCREENED/OPEN INTERVAL:	7.75-13.75'
WELL PERMIT #:	2600007562	WELL DIAMETER:	4" inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH:	8.5 ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION:	5.20 ft below TOC
	BENEATH INNER CAP:	0.0		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1300	✓		6.97	NA	.455	NA	-39	NA	7.69	NA	34.6	NA	28.35	NA	400	5.39
1305	✓		6.86	.11	.516	13%	-46	7	4.97	34%	0.0	—	24.01	15%	400	5.39
1310	✓		6.87	.01	.536	3%	-52	6	3.02	39%	0.0	—	23.61	1%	400	5.39
1315	✓		6.88	.01	.565	5%	-59	7	1.60	47%	0.0	—	22.92	2%	400	5.39
1320	✓		6.89	.01	.566	.1%	-60	1	1.71	6%	0.0	—	22.91	—	400	5.39
1325	✓		6.90	.01	.568	.3%	-61	1	1.86	5%	0.0	—	22.73	7%	400	5.39
1330	✓		6.92	.02	.570	.3%	-62	1	1.76	2%	0.0	—	22.71	—	400	5.39
1335	✓		6.93	.01	.572	.3%	-69	7	1.70	3%	0.0	—	22.70	—		5.39

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 7/17/20 FIELD PERSONNEL: AE
 WEATHER: 88 Sunny CERTIFICATION #: 13040

MONITOR WELL #: LN - 3 WELL DEPTH: 11.75' SCREENED/OPEN INTERVAL: 5.75 - 11.75'
 WELL PERMIT #: 2600007563 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 2.5 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 4.85 ft below TOC
 BENEATH INNER CAP: 0.2

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
11:35	X		6.61	NA	2.00	NA	29	NA	0.10	NA	16.9	NA	21.39	NA	730	5.25
12:00	X		6.62	0.01	2.04	2%	23	6	0.13	100%	4.2	15%	21.83	2%		
12:05	X		6.62	0.00	2.08	1.9%	23	0	0.13	0%	14.6	2.5%	21.67	1%		
12:10	X		6.62	0.00	2.09	1%	23	0	0.13	0%	16.4	12%	21.29	1%		
12:15	X		6.62	0.00	2.09	0.1%	23	0	0.13	0%	19.7	100%	21.31	1%		
12:20	X		6.63	0.01	2.07	1%	21	2	0.13	0%	17.9	1%	21.23	1%		
12:25	X		6.64	0.01	2.05	1%	21	0	0.13	0%	19.9	0%	21.17	1%		
12:30	X		6.65	0.01	2.01	1%	20	1	0.13	0%	19.9	0%	21.03	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 7/14/21 FIELD PERSONNEL: AE
 WEATHER: 85° Sunny CERTIFICATION #: 13040

MONITOR WELL #: LN-4 WELL DEPTH: 16.5' SCREENED/OPEN INTERVAL: 5.5 - 16.5'
 WELL PERMIT #: 2600008131 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 9.5 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.94 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
13:25	X		7.17	NA	1.42	NA	-16	NA	11.03	NA	5.6	NA	21.15	NA	232	7.05
13:30	X		7.13	0.03	1.65	16%	-21	-6	9.60	12%	0.7	83%	20.25	4%		
13:35	X		7.13	0.00	1.85	12%	-25	-4	8.65	9.8%	0.9	0%	19.81	2%		
13:40	X		7.12	0.01	1.97	6%	-26	-1	8.35	3.1%	0.9	0%	19.84	1%		
13:45	X		7.12	0.00	2.19	11%	-27	-1	8.05	3.9%	0.9	0%	19.82	1%		
13:50	X		7.12	0.00	2.24	2.2%	-29	-2	7.86	2.3%	0.9	0%	19.77	1%		
13:55	X		7.11	0.01	2.29	2.2%	-33	-4	7.71	1.9%	0.9	0%	19.72	1%		
14:00	X		7.11	0.00	2.34	2.1%	-35	-2	7.62	1.1%	0.9	0%	19.67	1%		
14:05	X		7.11	0.00	2.42	2.5%	-40	-5	7.50	1%	0.9	0%	19.62	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

Earth Systems

Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
 DATE: 7/19/21
 WEATHER: 86 clouds,
 CONSULTING FIRM: EARTH SYSTEMS
 FIELD PERSONNEL: AE
 CERTIFICATION #: 13040

MONITOR WELL #: LN - 5
 WELL PERMIT #: E201013003
 WELL DEPTH: 17'
 WELL DIAMETER: 4" Inches
 SCREENED/OPEN INTERVAL: 7-17'

PID/FID READINGS (ppm):
 BACKGROUND: 0.0
 BENEATH OUTER CAP: 0.0
 BENEATH INNER CAP: 0.0
 PUMP INTAKE DEPTH: 7.5 ft below TOC
 DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.6 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
8:33	X		6.57	NA	0.232	NA	347	NA	4.66	NA	47.8	NA	21.85	NA	330	6.21
8:38	X		5.89	0.68	0.232	0%	360	-13	1.38	100%	54.1	13x	21.79	1%		6.33
8:43	X		5.86	0.03	0.231	1%	365	-5	0.92	100%	46.8	13x	21.74	1%		6.39
8:48	X		5.82	0.04	0.230	0%	361	4	0.97	0%	38.7	1.7x	21.76	1%		
8:53	X		5.76	0.04	0.230	0%	370	-9	0.97	0%	36.1	2.5x	21.74	1%		
8:58	X		5.76	0.00	0.229	1%	374	-4	0.97	0%	36.9	8.8x	21.70	1%		
9:03	X		5.73	0.03	0.229	0%	379	-5	0.97	0%	30.1	8.5x	21.68	1x		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

SHEET 1 OF 1

CONSULTING FIRM: EARTH SYSTEMS

FIELD PERSONNEL:

CERTIFICATION #: 13040

WELL DEPTH: 18'

SCREENED/OPEN INTERVAL: 8-18'

WELL DIAMETER: 4" Inches

BACKGROUND:

BENEATH OUTER CAP:

BENEATH INNER CAP:

PUMP INTAKE DEPTH: 10.5 ft below TOC

DEPTH TO WATER BEFORE PUMP INSTALLATION: 177 ft below TOC

COMMENTS:

Low Flow Sheets based on Revised Well Manual (11/19/2021)

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 7/14/21 FIELD PERSONNEL: RC
 WEATHER: Cloudy 75° CERTIFICATION #: 13040

MONITOR WELL #: LN - 7 WELL DEPTH: 18' SCREENED/OPEN INTERVAL: 8-18'
 WELL PERMIT #: E201013004 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 10.5 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 8.23 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+8)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1105	✓	✓	6.31	NA	.189	NA	31	NA	2.44	NA	7.2	NA	23.19	NA	480	8.31
1110	✓	✓	6.60	.01	.514	171%	-47	78	.46	81%	0.0	—	21.86	5%	400	8.31
1115	✓	✓	6.76	.10	.569	10%	-57	10	.14	65%	0.0	—	21.99	.5%	200	8.31
1120	✓	✓	6.75	.05	.601	5%	-66	9	.09	43%	0.0	—	22.16	.7%	400	8.31
1125	✓	✓	6.80	.05	.640	6%	-72	6	.03	66%	0.0	—	22.45	1.3%	400	8.31
1130	✓	✓	6.83	.03	.650	1%	-74	2	0.05	—	0.00	—	22.34	.4%	400	8.31
1135	✓	✓	6.86	.03	.660	1%	-77	3	0.05	—	0.0	—	22.57	1%	400	8.31
1140	✓	✓	6.87	.02	.667	1%	-80	3	0.00	—	0.0	—	22.17	.5%	400	8.31

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF

[illegible]

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	7/13/21	FIELD PERSONNEL:	AK
WEATHER:	80° 0.22-1	CERTIFICATION #:	13040

MONITOR WELL #:	L1 - 2	WELL DEPTH:	15.5'	SCREENED/OPEN INTERVAL:	5.5-15.5'
WELL PERMIT #:	2600080656	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH:	8	ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION:	5.62	ft below TOC
	BENEATH INNER CAP:	0.0			

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
8:28	X		7.21	NA	0.338	NA	56	NA	2.30	NA	50.1	NA	22.02	NA	3.18	5.65
8:33	X		6.94	0.27	0.449	32%	28	28	0.40	82%	31.0	38%	18.99	6%		
8:37	X		6.96	-0.02	0.574	15%	20	8	0.40	0%	22.1	28%	18.76	12%		
8:42	X		6.90	0.06	0.610	6.1%	11	9	0.40	0%	14.5	34%	18.49	14%		
8:47	X		6.91	0.01	0.673	13%	~1	10	0.40	0%	8.1	44%	18.35	0.7%		
8:52	X		6.91	0.00	0.741	6.9%	7 7	-6	0.40	0%	4.3	46%	18.22	0.7%		
8:57	X		6.91	0.00	0.738	0.4%	-12	-6	0.40	0%	4.0	6.9%	18.20	0.6%		
9:02	X		6.92	0.01	0.730	1%	-15	-3	0.40	0%	3.8	5%	18.13	0.2%		
9:07	X		6.92	0.00	0.726	6.5%	-17	-2	0.40	0%	3.6	5%	18.22	0.2%		
9:12	X		6.92	0.00	0.720	0.8%	-18	-1	0.40	0%	3.3	8%	17.89	0.6%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Former Hess - Port Reading</u>		CONSULTING FIRM: <u>EARTH SYSTEMS</u>	
DATE: <u>7/13/21</u>		FIELD PERSONNEL: <u>KC</u>	
WEATHER: <u>Cloudy 75°</u>		CERTIFICATION #: <u>13040</u>	

MONITOR WELL #: <u>L1-3</u>	WELL DEPTH: <u>11.4'</u>	SCREENED/OPEN INTERVAL: <u>6.4 - 11.4'</u>
WELL PERMIT #: <u>2600080664</u>	WELL DIAMETER: <u>4"</u> Inches	

PID/FID READINGS (ppm):	BACKGROUND: <u>0.0</u>	PUMP INTAKE DEPTH: <u>8.0</u> ft below TOC
	BENEATH OUTER CAP: <u>0.0</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>5.97</u> ft below TOC
	BENEATH INNER CAP: <u>0.0</u>	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
915	✓		6.56	NA	.079	NA	150	NA	3.76	NA	37.2	NA	20.08	NA	400	6.33
920	✓		6.24	.32	.117	48%	42	108	1.45	61%	12.4	66%	19.79	1%	400	6.20
925	✓		6.38	.12	.145	23%	15	27	1.20	17%	5.8	53%	19.65	1%	400	6.22
930	✓		6.47	.09	.164	213%	1	14	1.52	26%	1.8	68%	19.58	1%	400	6.22
935	✓		6.53	.06	.176	7%	-7	8	1.65	8%	0.0	—	19.55	1%	400	6.22
940	✓		6.57	.04	.190	7%	-15	8	1.69	3%	0.0	—	19.53	1%	400	6.22
945	✓		6.59	.02	.208	9%	-24	6	1.50	11%	0.0	—	19.28	.7%	400	6.22
950	✓		6.70	.11	.223	7%	-31	10	1.79	19%	0.0	—	19.54	.8%	300	6.22
955	✓		6.75	.05	.221	.8%	-35	4	1.81	1%	0.0	—	19.70	.8%	400	6.22
1000	✓		6.75	—	.220	.4%	-37	2	1.84	1%	0.0	—	19.88	.9%	400	6.22
1005	✓		6.79	.04	.223	1%	-41	4	1.87	1%	0.0	—	19.87	1%	400	6.22
COMMENTS: <u>6.75 .07 .226 1% -46 5 1.79 4% 0.0 19.61 1% 6.22</u>																

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Former Hess - Port Reading</u> DATE: <u>7/13/21</u> WEATHER: <u>Cloudy, 70°</u>	CONSULTING FIRM: <u>EARTH SYSTEMS</u> FIELD PERSONNEL: <u>RL</u> CERTIFICATION #: <u>13040</u>
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MONITOR WELL #: <u>21-41</u> WELL PERMIT #: <u>2600 080672</u>	WELL DEPTH: <u>11'</u> WELL DIAMETER: <u>4"</u> Inches	SCREENED/OPEN INTERVAL: <u>6-11'</u>
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PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>9.0</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>6.85</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1050	✓		6.82	NA	292	NA	182	NA	8.73	NA	16.5	NA	21.26	NA	300	7.22
1055	✓		6.77	0.05	290	1%	202	20	8.38	4%	4.8	75%	21.37	1%	200	7.24
1100	✓		6.74	0.03	290	-	212	10	7.93	5%	4.8	-	21.47	1%	200	7.24
1105	✓		6.73	0.01	290	-	218	6	7.73	2%	4.8	-	21.48	1%	200	7.22
1110	✓		6.74	0.01	289	1%	222	4	7.41	4%	4.8	-	21.48	-	200	7.22
1115	✓		6.74	-	289	-	225	3	7.27	2%	4.8	-	21.51	1%	200	7.22

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems

Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 6 OF 1

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 7/13/21 FIELD PERSONNEL: AE
 WEATHER: 80° Overcast CERTIFICATION #: 13040

MONITOR WELL #: BG-2 WELL DEPTH: 9.0' SCREENED/OPEN INTERVAL: 4-9'
 WELL PERMIT #: 2600008130 WELL DIAMETER: 4" inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 5 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 167 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
10:00	X		7.05	NA	6.087	NA	151	NA	1.3	NA	55.0	NA	26.78	NA	250	
10:05	X		6.54	0.51	0.067	22%	164	-13	0.20	100%	30.1	45%	27.92	4%	210	3.45
10:10	X		6.34	0.20	0.074	10%	159	5	0.20	0%	33.7	11	27.10	1%		3.81
10:15	X		6.17	0.17	0.082	10%	155	4	0.20	0%	34.8	3.2%	26.38	2.8%		
10:20	X		6.05	0.09	0.090	9%	149	6	0.20	0%	31.8	8%	26.17	1%		
10:25	X		6.05	0.03	0.090	0%	140	9	0.20	0%	28.9	9%	25.96	1%		
10:30	X		6.03	0.02	0.090	0%	133	7	0.20	0%	26.4	7%	25.90	1%		
10:35	X		6.00	0.03	0.090	0%	125	8	0.20	0%	24.9	7%	25.88	1%		
10:40	X		6.00	0.00	0.090	0%	120	5	0.20	0%	23.5	5%	25.84	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

5
8.1

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	7/13/21	FIELD PERSONNEL:	RC
WEATHER:	Cloudy 70°	CERTIFICATION #:	13040

MONITOR WELL #:	BG-2 BG-3	WELL DEPTH:	9.0 12
WELL PERMIT #:	2000000130	WELL DIAMETER:	4" inches
		SCREENED/OPEN INTERVAL:	4.0 7.12
26000011432			

PID/FID READINGS (ppm):	BACKGROUND:	PUMP INTAKE DEPTH:	6.0 ft below TOC 8.5
	BENEATH OUTER CAP:	DEPTH TO WATER BEFORE PUMP INSTALLATION: 2.71 ft below TOC	
	BENEATH INNER CAP:		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1250	✓		6.71	NA	.217	NA	33	NA	9.18	NA	0.9	NA	22.05	NA	300	3.10
1255	✓		6.65	.06	.208	4%	38	5	7.91	13%	8.1	8%	22.39	1.5%	200	3.31
1300	✓		6.60	.05	.214	3%	34	4	6.91	12%	2.3	71%	22.79	7%	160	3.41
1305	✓		6.58	.02	.223	3%	30	4	6.02	12%	1.1	52%	22.76	1%	160	3.50
1310	✓		6.57	.01	.230	3%	26	4	5.50	8%	0.7	—	22.83	.3%	160	3.57
1315	✓		6.58	.01	.232	8%	16	10	5.00	9%	0.0	—	22.79	.1%	160	3.60
1320	✓		6.60	.02	.234	1%	10	6	4.09	1.8%	0.0	—	22.61	.7%	160	3.63
1325	✓		6.61	.01	.240	2%	4	6	3.93	3%	0.0	—	22.73	.7%	160	3.66
1330	✓		6.61	—	.241	1%	1	3	3.63	7%	0.0	—	22.31	.5%	160	3.70
1335	✓		6.61	—	.242	1%	-2	3	3.29	7%	0.0	—	22.28	.5%	160	3.73
1340																

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Date: 10/14/21 Job #/Name: N. LF Weather: Sunny 75 Personnel: K1
Equipment: Hanna U52 Serial Number: 033462/25352

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 3/31/23 166758	Span Pt (pH 10)	Lot / Exp Date 3/31/23 166438	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
0805	21.17	4.10	4.0	9.97	10.0	7.02	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1105	22.09					7.14	

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date 3/31/22 1661036	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0810	0.002	0.0	1.65	1.91	1.42	N

Turbidity						
Time	Zero	Lot / Exp Date 3/11/22 21030147	Span (100 NTU)	Lot / Exp Date 3/15/22 21100045	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90- 110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0815	1.5	0.0	1.62	100	101.4	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date 10/27/21 2019080750	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
0820	0.9	0.0	100.4	100	0.1

Date: 10/15/21 Job #/Name: S. LF Weather: Sunny 75 Personnel: RY

Equipment: Hanna U32

Serial Number: 033462/25352

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted	(pH 7 - acceptable range 6.9-7.1)	Recalibrate (Y/N)*
0920	20.55	4.04	3/31/23 16C758 4.0	9.96	3/31/23 16C436 10.0	7.04	
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate)	Lot / Exp Date
						(pH 7 - acceptable range 6.8-7.2)	

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	(use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Recalibrate (Y/N)
0925	0.05	0.0	1.44	1.41		

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	(use 100 NTU - acceptable range 90- 110 NTU)	Recalibrate (Y/N)
0930	0.0	3/11/22 21030147 0.0	125	3/15/22 21100845 100	105	

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	(0% Solution) Check Value
0935	0.17	10/27/21 2019080750 0.0			0.22

Date: 10/13/21 Job #/Name: No. 2 LF Weather: Cloudy 65 Personnel: KY

Equipment: Hanna U-52

Serial Number: 033462/25352

pH							
Time	Temperature	Zero Pt	Lot / Exp Date	Span Pt	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		(pH 4)		(pH 10)			
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
<u>0845</u>	<u>21.08</u>	<u>4.08</u>	<u>3/31/23</u> <u>16C758</u> <u>4.0</u>	<u>10.08</u>	<u>3/31/23</u> <u>16C436</u> <u>10.0</u>	<u>7.04</u>	<u>N</u>
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt *	Lot / Exp Date	Span Pt *	Lot / Exp Date	Check (must be within +/- 0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
		(pH 4)		(pH 10)			
<u>1050</u>	<u>21.51</u>					<u>7.14</u>	

Conductivity						
Time	Zero	Lot / Exp Date	Span	Lot / Exp Date	Check (must be within +/- 1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	(Ambient Air)		(1.413 ms/cm)			
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
<u>0850</u>	<u>0.004</u>	<u>0.0</u>	<u>1.82</u>	<u>3/31/2022</u> <u>16C1036</u> <u>1.41</u>	<u>1.42</u>	<u>N</u>

Turbidity						
Time	Zero	Lot / Exp Date	Span	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
			(100 NTU)			
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
<u>0855</u>	<u>1.8</u>	<u>3/31/22</u> <u>21030147</u> <u>0.0</u>	<u>180</u>	<u>3/15/22</u> <u>21100045</u> <u>100</u>	<u>99.1</u>	<u>N</u>

Dissolved Oxygen					
Time	Zero	Lot / Exp Date	Air Span	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	(0% Solution)		(100%)		
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
<u>900</u>	<u>1.1</u>	<u>10/27/21</u> <u>2019060750</u> <u>0.0</u>	<u>101.5</u>	<u>100</u>	<u>0.2</u>

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	10/14/21	FIELD PERSONNEL:	KY
WEATHER:	Sunny 75	CERTIFICATION #:	13040

MONITOR WELL #:	LN - 1	WELL DEPTH:	14.85'
WELL PERMIT #:	2600008130	WELL DIAMETER:	4" inches
		SCREENED/OPEN INTERVAL:	8 - 14.85'

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH:	10.0	ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION:		
	BENEATH INNER CAP:	0.0	5.23 ft below TOC		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
850	✓		6.07	NA	1.54	NA	-56	NA	1.14	NA	61.4	NA	21.81	NA	275	5.56
855	✓		6.09	.02	1.53	-.65	-64	8	0.80	-29.87	83.9	36.65	21.84	-19		
900	✓		6.12	.03	1.52	-.65	-68	4	0.65	-18.75	75.3	10.25	21.89	-23		
905	✓		6.14	.02	1.51	-.66	-70	2	0.58	-10.77	72.1	-4.25	21.91	0.08		
910	✓		6.16	.02	1.51	-	-72	2	0.38	-34.48	63.8	-11.51	21.98	.32		
915	✓		6.17	.01	1.49	-1.33	-74	2	0.23	-39.47	60.5	-5.17	22.02	-18		
920	✓		6.19	.02	1.48	-.67	-75	1	0.17	-26.09	56.1	-7.27	22.05	-14		
925	✓		6.20	.01	1.46	-1.35	-76	1	0.16	-5.88	52.3	-6.77	22.08	-14		
930	✓		6.21	.01	1.45	-.69	-76	-	0.16	-	49.7	-4.57	22.09	-05		
935	✓		6.21	-	1.44	-.69	-76	-	0.15	-6.25	47.0	-5.43	22.12	-14		
940	✓		6.20	.01	1.45	-.69	-76	-	0.16	-6.25	47.2	-4.17	22.11	-		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 10/14/21 FIELD PERSONNEL: 15
 WEATHER: Sunny, 75 CERTIFICATION #: 13040

MONITOR WELL #: LN - 2 WELL DEPTH: 13.75' SCREENED/OPEN INTERVAL: 7.75-13.75'
 WELL PERMIT #: 2600007562 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 8.5 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.94 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH ± 0.1 (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY $\pm 3\%$ (mS/cm) (EPA 120.1)		REDOX POTENTIAL ± 10 (mv)		DISSOLVED OXYGEN $\pm 10\%$ (mg/l) (SM 4500OG)		TURBIDITY (NTU) $\pm 10\%$ (EPA 180.1)		TEMPERATURE (degrees C) $\pm 3\%$ (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1124	x		6.57	NA	.492	NA	-90	NA	0.09	NA	0.0	NA	23.33	NA	275	5.89
1129	x		6.53	-0.04	.492	—	-98	8	0.0	—	0.0	—	24.21	4.26		5.89
1134	x		6.55	.02	.502	2.03	-102	4	0.0	—	0.0	—	24.44	.95		5.89
1139	x		6.59	.04	.497	-0.99	-105	3	0.0	—	0.0	—	24.59	.62		5.89
1144	x		6.62	.03	.487	-2.01	-108	3	0.0	—	0.0	—	24.81	.90		5.89
1150	x		6.60	.02	.490	-0.65	-111	3	0.0	—	0.0	—	24.78	—		5.89

COMMENTS: Sample @ 1145

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET ____ OF ____

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	10/14/21	FIELD PERSONNEL:	RC
WEATHER:	Sunny 75	CERTIFICATION #:	13040

MONITOR WELL #:	LN - 3	WELL DEPTH:	11.75'
WELL PERMIT #:	2600007563	WELL DIAMETER:	4" Inches
		SCREENED/OPEN INTERVAL:	5.75 - 11.75'

PID/FID READINGS (ppm):	BACKGROUND:	PUMP INTAKE DEPTH:	8 ft below TOC
	BENEATH OUTER CAP:	DEPTH TO WATER BEFORE PUMP INSTALLATION:	5.36 ft below TOC
	BENEATH INNER CAP:		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1130	x		6.60	NA	1.55	NA	-113	NA	.63	NA	0.0	NA	22.90	NA	300	5.62
1135	x		6.61	0.01	1.54	10%	-117	4	0.00	100%	0.0	-	23.01	10%	300	5.61
1140	x		6.62	0.01	1.54	-	-121	4	0.00	-	0.0	-	23.31	10%	300	5.61
1145	x		6.63	0.01	1.50	10%	-123	2	0.00	-	0.0	-	23.41	10%	300	5.61
1150	x		6.62	0.01	1.49	10%	-120	3	0.00	-	0.0	-	23.39	10%	300	5.61
1155	x		6.61	0.01	1.47	10%	-118	2	0.00	-	0.0	-	23.31	10%	300	5.61
1200																

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	10/14/21	FIELD PERSONNEL:	RL
WEATHER:	Clear 66°	CERTIFICATION #:	13040

MONITOR WELL #:	LN - 4	WELL DEPTH:	16.5'	SCREENED/OPEN INTERVAL:	5.5 - 16.5'
WELL PERMIT #:	2600008131	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH:	9.5	ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION:	7.39	ft below TOC
	BENEATH INNER CAP:	0.0			

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
950			6.75	NA	1.73	NA	-116	NA		NA	96.4	NA	21.35	NA	400	7.44
955																
1000	✓		6.88	-	1.68	-	-125	-	305	-	75.2	-	21.55	-	400	7.45
1005	✓		6.94	0.06	1.67	10%	-139	14	1.63	46%	44.9	40%	21.60	10%	400	7.45
1010	✓		7.03	0.09	1.67	10%	-154	15	0.98	40%	26.6	41%	21.67	10%	400	7.45
1015	✓		7.05	0.02	1.68	10%	-159	5	1.800	1000%	19.4	26%	21.58	10%	400	7.45
1020	✓		7.05	-	1.68	-	-160	1	0.00	-	19.4	10%	21.69	10%	400	7.45
1025	✓		7.05	-	1.69	10%	-162	2	0.00	-	19.1	20%	21.77	10%	400	7.45
1030	✓		7.07	0.02	1.69	-	-164	2	0.00	-	18.9	40%	21.81	10%	400	7.45
1035	✓		7.08	0.01	1.68	10%	-164	3	0.00	-	18.6	20%	21.80	10%	400	7.45

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Former Hess - Port Reading</u> DATE: <u>10/14/21</u> WEATHER: <u>Sunny 60,</u>	CONSULTING FIRM: <u>EARTH SYSTEMS</u> FIELD PERSONNEL: <u>RC</u> CERTIFICATION #: <u>13040</u>
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MONITOR WELL #: <u>LN-5</u> WELL PERMIT #: <u>E201013002</u>	WELL DEPTH: <u>17'</u> WELL DIAMETER: <u>4"</u> Inches	SCREENED/OPEN INTERVAL: <u>7.77'</u>
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PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>9.5</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>6.81</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1320	✓		6.34	NA	180	NA	84	NA	2.53	NA	17.4	NA	22.33	NA	380	7.36
1325	✓		6.00	0.34	174	33%	106	22	1.99	21%	18.8	8%	22.68	2%	360	7.58
1330	✓		5.72	0.18	168	3.4%	159	53	1.64	18%	20.4	19%	22.89	2%	340	7.60
1335	✓		5.73	0.01	169	1%	164	5	1.54	6%	26.8	31%	23.06	1%	340	7.62
1340	✓		5.73	-	169	-	169	5	1.44	6%	26.4	2%	23.42	2%	340	7.62
1345	✓		5.73	-	169	-	170	1	1.42	10%	25.9	2%	23.61	2%	340	7.63
1350	✓		5.74	0.01	169	-	174	4	1.40	10%	27.1	50%	23.30	1%	340	7.64
1355		✓	5.74	0.01	169	-	175	1	1.37	10%	26.0	40%	23.42	1%	340	7.65

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	10/14/21	FIELD PERSONNEL:	KV
WEATHER:	Sunny, 75	CERTIFICATION #:	13040

MONITOR WELL #:	LN - 6	WELL DEPTH:	18'
WELL PERMIT #:	E201013004	WELL DIAMETER:	4" inches
		SCREENED/OPEN INTERVAL:	8-18'

PID/FID READINGS (ppm):	BACKGROUND:	PUMP INTAKE DEPTH:	10.5 ft below TOC
	BENEATH OUTER CAP:	DEPTH TO WATER BEFORE PUMP INSTALLATION:	8.44 ft below TOC
	BENEATH INNER CAP:		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1220	✓		6.51	NA	298	NA	-98	NA	0.0	NA	0.0	NA	26.08	NA	275	8.49
1225	✓		6.44	-0.07	305	2.35	-105	7	0.0	—	0.0	—	25.49	-2.26		8.50
1230	✓		6.42	-0.02	310	1.64	-106	1	0.0	—	0.0	—	25.39	-0.89		8.51
1235	✓		6.44	-0.02	319	2.90	-111	5	0.0	—	0.0	—	25.52	0.51		8.51
1240	✓		6.48	0.04	327	2.51	-114	3	0.0	—	0.0	—	25.67	0.59		8.51
1245		✓	6.49	0.01	327	-	-117	3	0.0	-	0.0	-	25.60	-	↓	8.51

COMMENTS: Sample ① 1245

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

SITE: Former Hess - Port Reading

DATE: 10/14/21

WEATHER: Sunny, 75

CONSULTING FIRM: EARTH SYSTEMS

FIELD PERSONNEL: KY

CERTIFICATION #: 13040

MONITOR WELL #: LN - 7 WELL DEPTH: 18' SCREENED/OPEN INTERVAL: 8-18'

WELL PERMIT #: E201013004 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0

BENEATH OUTER CAP: 0.0

BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 10.5 ft below TOC

DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.07 ft below TOC

TIME	PURGING	SAMPLING	pH ± 0.1 (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY $\pm 3\%$ (mS/cm) (EPA 120.1)		REDOX POTENTIAL ± 10 (mv)		DISSOLVED OXYGEN $\pm 10\%$ (mg/l) (SM 4500OG)		TURBIDITY (NTU) $\pm 10\%$ (EPA 180.1)		TEMPERATURE $\pm 3/0$ (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1014	x		6.45	NA	.358	NA	-69	NA	.38	NA	0.0	NA	24.88	NA	275	9.04
1019	y		6.48	.03	.387	8.10	-79	10	.11	-71.05	0.0	—	25.20	.48		9.04
1024	y		6.56	.08	.411	6.20	-89	10	0.0	—	0.0	—	25.27	1.08		9.05
1029	y		6.60	.04	.430	4.62	-97	8	0.0	—	0.0	—	25.43	.63		9.05
1034	y		6.65	.05	.454	5.81	-103	6	0.0	—	0.0	—	25.47	.16		9.05
1039	y		6.67	.02	.464	2.20	-106	3	0.0	—	0.0	—	25.58	NA .43		9.05
1044	y		6.69	.02	.477	2.80	-112	6	0.0	—	0.0	—	25.75	.67		9.05
1049	y		6.71	.02	.484	1.47	-114	2	0.0	—	0.0	—	25.74	-.04		9.05
1055	x		6.70	.01	.484	-	-117	3	0.0	—	0.0	—	25.74	-	4	9.05

COMMENTS:

Sample ① 1055

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

SITE: <u>Former Hess - Port Reading</u>				CONSULTING FIRM: <u>EARTH SYSTEMS</u>			
DATE: <u>10/13/21</u>				FIELD PERSONNEL: <u>KJ</u>			
WEATHER: <u>Cloudy, 75</u>				CERTIFICATION #: <u>13040</u>			

MONITOR WELL #: <u>L1 - 1</u>	WELL DEPTH: <u>14.25'</u>	SCREENED/OPEN INTERVAL: <u>4.25-14.25</u>
WELL PERMIT #: <u>2600080681</u>	WELL DIAMETER: <u>4"</u> Inches	

PID/FID READINGS (ppm):	BACKGROUND: <u>0.0</u>	PUMP INTAKE DEPTH: <u>7'</u> ft below TOC
	BENEATH OUTER CAP: <u>0.0</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>4.83</u> ft below TOC
	BENEATH INNER CAP: <u>0.0</u>	

TIME	PURGING	SAMPLING	pH ± 0.1 (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY $\pm 3\%$ (mS/cm) (EPA 120.1)		REDOX POTENTIAL ± 10 (mv)		DISSOLVED OXYGEN $\pm 10\%$ (mg/l) (SM 4500OG)		TURBIDITY (NTU) $\pm 10\%$ (EPA 180.1)		TEMPERATURE (degrees C) ± 0.5 (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1230	x		5.14	NA	0.528	NA	131	NA	1.96	NA	33.5	NA	24.97	NA	275	5.24
1235			5.05	-0.09	0.527	-0.189	151	20	1.66	-15.31	26.3	-21.49	25.14	-0.681		5.30
1240			5.01	-0.04	0.499	-5.31	168	17	1.57	-5.42	18.1	-31.18	25.16	-0.08		5.34
1245			4.96	-0.05	0.486	-2.61	179	11	1.52	-3.19	15.3	-15.47	25.20	-0.16		5.36
1250			4.96	-	0.485	-0.21	184	5	1.45	-4.61	13.8	-9.80	25.22	-0.08		5.36
1255			4.98	0.02	0.488	-0.62	187	3	1.42	-2.1	13.1	-5.07	25.28	-0.24		5.36
1300			5.01	0.03	0.490	-0.41	188	1	1.40	-1.41	12.8	-2.29	25.30	-0.08		5.36
1305		x	5.02	0.01	0.492	-0.02	189	1	1.42	-1.41	12.9	-	25.32	-0.02		5.36

COMMENTS: Sample @ 1300

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 10/13/21 FIELD PERSONNEL: KY
 WEATHER: Cloudy, 70 CERTIFICATION #: 13040

MONITOR WELL #: L1 - 2 WELL DEPTH: 15.5' SCREENED/OPEN INTERVAL: 5.5-15.5'
 WELL PERMIT #: 2600080656 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 8 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.17 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH ± 0.1 (pH units) (SM 4500H+B)		SPECIFIC $\pm 3\%$ CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX ± 10 POTENTIAL (mv)		DISSOLVED $\pm 10\%$ OXYGEN (mg/l) (SM 4500OG)		TURBIDITY $\pm 10\%$ (NTU) (EPA 180.1)		TEMPERATURE $\pm 3\%$ (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0938	x		6.18	NA	1.48	NA	-22	NA	1.03	NA	173	NA	20.45	NA	275	6.19
0943	x		6.13	-0.05	1.43	-3.38	-27	5	0.11	-89.32	148	-14.45	20.58	0.63		6.19
0948	x		6.13	—	1.47	2.80	-36	9	0.0	—	127	-14.19	20.65	0.34		6.19
0953	x		6.14	0.01	1.48	0.68	-47	11	0.0	—	102	-19.69	20.67	0.097		6.19
0958	x		6.18	0.04	1.50	1.35	-59	12	0.0	—	77.0	24.51	20.71	0.19		6.19
1003	x		6.21	0.03	1.50	—	-67	8	0.0	—	68.5	11.04	20.74	0.14		6.19
1008	x		6.23	0.02	1.51	0.67	-72	5	0.0	—	62.9	8.18	20.73	-0.048		6.19
1013	x		6.28	0.05	1.51	—	-79	7	0.0	—	58.5	6.99	20.73	—		6.19
1018	x		6.31	0.03	1.51	—	-83	4	0.0	—	55.7	4.79	20.72	-0.048		6.19
1022	x		6.33	0.02	1.51	—	-86	3	0.0	—	55.2	—	20.72	—		6.19

COMMENTS: Sample @ 1020

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

SITE: <u>Former Hess - Port Reading</u> DATE: <u>10/13/21</u> WEATHER: <u>CLEAR</u>	CONSULTING FIRM: <u>EARTH SYSTEMS</u> FIELD PERSONNEL: <u>RL</u> CERTIFICATION #: <u>13040</u>
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MONITOR WELL #: <u>L1-3</u> WELL PERMIT #: <u>2600080664</u>	WELL DEPTH: <u>11.4'</u> WELL DIAMETER: <u>9"</u> Inches	SCREENED/OPEN INTERVAL: <u>6.4-11.4'</u>
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PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>8.5</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>6.52</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
955	✓		6.11	NA	.543	NA	-71	NA	1.36	NA	24.7	NA	20.19	NA	400	6.68
1000	✓		6.48	.37	.550	10%	-104	33	.55	60%	13.1	47%	20.13	1%	400	6.65
1005	✓		6.56	.08	.570	40%	-119	15	.60	90%	7.9	40%	20.10	1%	400	6.65
1010	✓		6.66	.10	.571	10%	-134	15	.66	100%	4.6	42%	20.07	1%	400	6.65
1015	✓		6.67	.01	.580	20%	-130	4	.62	60%	1.2	74%	20.10	1%	400	6.64
1020	✓		6.68	.01	.587	10%	-128	2	.60	30%	1.0	16%	19.97	1%	400	6.65
1025	✓		6.70	.02	.551	10%	-125	3	.54	10%	1.0	-	20.00	1%	400	6.66
1030	✓		6.75	.05	.604	20%	-127	2	.52	40%	1.0	-	20.03	1%	400	6.67
1035	✓		6.77	.02	.610	10%	-130	3	.56	80%	1.0	-	20.01	1%	400	6.67
1040		✓	6.80	.03	.611	10%	-132	2	.55	20%	1.0	-	20.04	1%	400	6.67

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 10/ FIELD PERSONNEL: RL
 WEATHER: Overcast CERTIFICATION #: 13040

MONITOR WELL #: L1 - 4 WELL DEPTH: 11' SCREENED/OPEN INTERVAL: 6 - 11'
 WELL PERMIT #: 2600080672 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 9.5 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.16 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1115	✓		6.84	NA	.322	NA	37	NA	3.28	NA	190	NA	20.30	NA	300	8.43
1120	✓		6.88	0.04	.322	—	51	14	3.03	7%	45.1	76%	20.42	10%	320	8.51
1125	✓		6.88	—	.322	—	57	6	2.96	3%	10.9	607%	20.51	10%	320	8.85
1130	✓		6.89	0.01	.322	—	66	9	2.90	2%	6.4	41%	20.61	10%	370	P.25
1135	✓		6.89	—	.322	—	70	4	2.85	2%	1.0	84%	20.63	10%	340	P.25
1140	✓		6.89	—	.322	—	74	4	2.83	10%	0.9	10%	20.64	10%	340	P.25
1145	✓		6.89	—	.322	—	76	2	2.80	14%	0.9	—	20.66	10%	340	8.25
1150	✓		6.89	—	.322	—	80	4	2.80	—	0.9	—	20.70	10%	390	8.24
1155	✓		6.89	—	.322	—	80	—	2.80	—	0.9	—	20.63	10%	390	P.26

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 10/13/21 FIELD PERSONNEL: KY
 WEATHER: Cloudy, 75 CERTIFICATION #: 13040

MONITOR WELL #: BG - 2 WELL DEPTH: 9.0' SCREENED/OPEN INTERVAL: 4.0 - 9.0'
 WELL PERMIT #: 2600008130 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 5' ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 2.59 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH ± 0.1 (pH units) (SM 4500H+B)		SPECIFIC $\pm 3\%$ CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX ± 10 POTENTIAL (mv)		DISSOLVED $\pm 10\%$ OXYGEN (mg/l) (SM 4500OG)		TURBIDITY $\pm 10\%$ (NTU) (EPA 180.1)		TEMPERATURE ± 0.3 (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1050	Y		5.50	NA	0.273	NA	26	NA	0.68	NA	125	NA	24.59	NA	275	3.02
1055	Y		5.46	-0.04	0.271	-0.002	20	-6	0.12	-82.35	133	6.4	25.39	3.25		3.65
1100	Y		5.49	.03	0.272	0.001	13	-7	0.23	91.67	113	-15.04	25.27	-0.473		3.74
1105	Y		5.49	-	0.273	0.001	8	-5	0.12	-47.83	86.3	-23.63	25.28	0.04		3.79
1110	Y		5.50	.01	0.275	0.002	2	-6	0.16	33.33	72.8	-15.64	25.27	-0.04		3.81
1115	Y		5.51	.01	0.278	0.003	-2	-4	0.86	437.5	68.9	-5.66	25.33	-0.237		3.83
1120	X		5.50	-0.01	0.281	0.003	-5	-3	0.90	4.65	66.9	-2.90	25.35	0.079		3.83
1125	Y		5.50	-	0.286	0.005	-9	-4	0.74	-21.11	64.2	-4.04	25.37	0.079		3.84
1130	X		5.50	-	0.295	0.009	-14	-5	0.57	-22.97	56.1	-12.61	25.34	-0.12		3.84
1135	Y		5.50	-	0.300	0.005	-17	-3	0.52	-8.77	54.0	-3.74	25.40	0.257		3.84
1140	Y		5.50	-	0.304	0.004	-18	-1	0.47	-9.62	52.1	-3.52	25.40	-		3.85
COMMENTS: 1145	X		5.50	-	0.309	0.005	-20	-2	0.44	-6.38	52.0	-0.19	25.42	0.079		3.85
1150	X		5.50	-	0.309	-	-22	-2	0.44	-	52.0	-	25.40	-		3.85

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

Sample @ 1150

LOW FLOW SAMPLING DATA SHEET

SHEET ____ OF ____

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 10/13/21 FIELD PERSONNEL: RC
 WEATHER: _____ CERTIFICATION #: 13040

MONITOR WELL #: BG - 3 WELL DEPTH: 12' SCREENED/OPEN INTERVAL: 7-12'
 WELL PERMIT #: 2600011432 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 9 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 4.62 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1330	✓		6.73	NA	.284	NA	-84	NA	1.15	NA	577	NA	20.38	NA	360	5.34
1335	✓		6.70	03	.260	10%	-70	6	0.91	21%	262	37%	20.21	1%	300	5.83
1340	✓		6.69	01	.245	6%	-52	8	0.65	28%	123	66%	20.11	1%	300	5.83
1345	✓		6.67	02	.258	5%	-57	5	1.21	86%	29	408%	20.10	1%	300	5.83
1350	✓		6.65	02	.261	1%	-59	2	1.39	15%	29.7	30%	20.07	1%	300	6.23
1355	✓		6.65	-	.266	1%	-62	3	1.30	6%	26.1	12%	20.03	1%	280	6.30
1400	✓		6.65	-	.271	1%	-64	2	1.27	1%	19.8	24%	20.34	1%	280	6.33
1405	✓		6.65	-	.276	1%	-69	5	1.10	9%	16.9	14%	20.24	1%	270	6.43
1410	✓		6.65	-	.279	1%	-72	3	1.11	4%	15.4	8%	20.11	1%	260	6.50
1415	✓		6.65	-	.280	1%	-74	2	1.11	-	15.0	30%	20.10	1%	260	6.53
1420	✓		6.65	-	.281	1%	-76	2	1.10	-	14.9	1%	20.14	1%	260	6.50
1425	✓		6.65	-	.283	1%	-76	-	1.00	10%	12.3	17%	20.14	-	260	6.42

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	10/15/21	FIELD PERSONNEL:	RL
WEATHER:	Clear	CERTIFICATION #:	13040

MONITOR WELL #:	LS - 1R	WELL DEPTH:	16'	SCREENED/OPEN INTERVAL:	6 - 16'
WELL PERMIT #:	2600025324	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	PUMP INTAKE DEPTH:	9 ft below TOC
	BENEATH OUTER CAP:	DEPTH TO WATER BEFORE PUMP INSTALLATION:	3.43 ft below TOC
	BENEATH INNER CAP:		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1010	✓		6.51	NA	.466	NA	-106	NA	3.54	NA	6.3	NA	21.58	NA	300	3.92
1015	✓		6.69	.18	.402	140%	-114	8	1.60	55%	25.3	300%	21.98	3%	300	4.16
1020	✓		6.89	.20	.386	40%	-127	13	.35	78%	40.2	590%	22.30	1%	280	4.95
1025	✓		6.95	.06	.376	30%	-127	-	0.00	100%	47.8	190%	22.40	1%	280	4.58
1030	✓		6.98	.03	.373	10%	-128	1	0.00	-	53.0	10%	22.57	1%	280	4.76
1035	✓		6.99	.01	.366	20%	-127	1	0.00	-	54.0	20%	22.61	1%	280	4.91
1040	✓		7.00	.01	.362	10%	-128	-	0.00	-	54.0	10%	22.78	1%	280	5.08
1045	✓		7.00	-	.360	10%	-126	1	0.00	-	54.9		22.86	1%	280	5.19

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 10/13/21 FIELD PERSONNEL: KY
 WEATHER: Sunny, 75 CERTIFICATION #: 13040

MONITOR WELL #: LS - 2 WELL DEPTH: 12.25' SCREENED/OPEN INTERVAL: 7.25-12.25'
 WELL PERMIT #: 2600007593 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 8 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 2.84 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH ± 1 (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY $\pm 3\%$ (mS/cm) (EPA 120.1)		REDOX POTENTIAL ± 10 (mv)		DISSOLVED OXYGEN $\pm 10\%$ (mg/l) (SM 4500OG)		TURBIDITY $\pm 10\%$ (NTU) (EPA 180.1)		TEMPERATURE $\pm 3/8$ (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1011	x		7.12	NA	1.11	NA	36	NA	0.54	NA	19.8	NA	21.93	NA	275	3.00
1016	x		7.02	-10	.976	-12.07	40	4	0.36	-33.33	17.0	-14.14	22.06	-593		3.07
1021	x		7.10	.08	.802	-17.83	40	—	0.18	-50	16.7	-1.77	22.06	—		3.10
1026	x		7.08	-.02	.780	-2.74	44	4	0.0	—	16.2	-2.99	21.90	-.93		3.16
1031	x		7.07	-.01	.774	-.27	46	2	0.0	—	16.0	-1.24	21.87	-.14		3.18
1036	x		7.09	.02	.772	-.26	46	—	0.0	—	15.7	-1.88	21.88	.05		3.21
1040	x		7.10	.01	.773	-.26	46	—	0.0	—	16.0	-1.88	21.89	.05		3.20

COMMENTS: Sample @ 1040

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 10/15/21 FIELD PERSONNEL: KJ
 WEATHER: Sunny / 75 CERTIFICATION #: 13040

MONITOR WELL #: LS-3 WELL DEPTH: 12.5' SCREENED/OPEN INTERVAL: 6.5 - 12.5'
 WELL PERMIT #: 2600007592 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 7.5 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 1.04 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH ± 0.1 (pH units) (SM 4500H+B)		SPECIFIC $\pm 3\%$ CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX ± 10 POTENTIAL (mv)		DISSOLVED $\pm 10\%$ OXYGEN (mg/l) (SM 4500OG)		TURBIDITY $\pm 10\%$ (NTU) (EPA 180.1)		TEMPERATURE ± 0.3 (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1100	x		6.57	NA	9.63	NA	-81	NA	0.44	NA	9.8	NA	21.58	NA	300	1.30
1105	x		6.58	.01	9.76	1.35	-85	4	.07	-84.09	6.3	-35.71	21.88	1.39		1.36
1110	x		6.61	.03	9.87	1.13	-87	2	0.0	—	8.0	26.98	21.99	.50		1.41
1115	x		6.64	.03	9.91	.41	-89	2	0.0	—	5.9	-26.25	22.17	.82		1.43
1120	x		6.65	.01	9.90	-10	-89	—	0.0	—	9.4	59.32	22.24	.32		1.47
1125	x		6.66	.01	9.87	-30	-89	—	0.0	—	8.5	-9.57	22.57	1.48		1.48
1130	x		6.67	.01	9.83	-41	-90	1	0.0	-	7.9	-7.06	22.76	.84		1.48
1135	x		6.67	—	9.82	-10	-90	—	0.0	-	7.5	-5.06	22.80	.18		1.50
1140	x		6.67	—	9.82	—	-90	—	0.0	—	7.9	-5.06	22.80	—		1.50

COMMENTS:

Sample @ 1140

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and $\pm 10\%$ for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET ____ OF ____

SITE: Former Hess - Port Reading CONSULTING FIRM: EARTH SYSTEMS
 DATE: 10/15/21 FIELD PERSONNEL: RC
 WEATHER: Clear CERTIFICATION #: 13040

MONITOR WELL #: LS - 4 WELL DEPTH: 14' SCREENED/OPEN INTERVAL: 7 - 14'
 WELL PERMIT #: 2600007595 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 9 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 1.93 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1110	✓		7.09	NA	2.66	NA	-58	NA	2.69	NA	212	NA	21.17	NA	400	2.05
1115	✓		7.16	0.07	2.68	10%	-71	13	1.00	64%	190	10.3%	21.26	10%	280	2.25
1120	✓		7.20	0.04	2.71	10%	-82	11	0.80	100%	173	9%	21.50	14%	280	2.50
1125	✓		7.21	0.01	2.72	10%	-92	10	0.00	-	156	10.3%	21.58	10%	280	2.66
1130	✓		7.21	-	2.73	10%	-100	8	0.00	-	141	9%	21.67	14%	280	2.70
1135	✓		7.21	-	2.70	10%	-100	-	0.00	-	141	-	21.60	14%	280	2.81
1140	✓		7.21	-	2.69	10%	-100	-	0.80	-	142	10%	21.59	14%	280	2.87
1145	✓	✓	7.21	-	2.68	10%	-99	1	0.00	-	140	10%	21.64	14%	280	2.95

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity